

California State Journal of Medicine

ISSUED MONTHLY: OWNED AND PUBLISHED BY THE
MEDICAL SOCIETY OF THE STATE OF CALIFORNIA

Vol. XIV, No. 4

APRIL, 1916

\$1.00 a Year

CONTENTS.

Editorial	127
Automobilists Attention	131
Medical Defense	132

ORIGINAL ARTICLES:

Tuberculous Cases of Malignant Testicle. By W. P. Willard, M. D.	134
A Water-Borne Epidemic of Typhoid Fever at Santa Barbara. By J. C. Geiger, M. D.	137
Personal Experiences With Roentgen Rays in Gynecologic	

Practice. By Henry Kreutzmann, M. D.	141
Botulism: Its Occurrence in California. By E. C. Dickson, M. D.	143
Diagnosis of Malaria. By J. R. Snyder, M. D.	145
Report of Case. By Paul S. Campiche, M. D.	146
An Arthroplasty of the Elbow. By Rexwald Brown, M. D.	146
Auditor's Report.	149

(Contents continued on page IX.)

Program of the Medical Society State of California—April, 1916	150
California Association for the Study and Prevention of Tuberculosis—Fresno, April 19, 1916	151
Medical Practice Acts of California	152
Urgent Need for a More Adequate Treatment of Syphilis. By A. R. Rogers, M. D.	153
Something to Remember.	156

ENTERED AT SAN FRANCISCO, CAL. AS SECOND-CLASS MATTER

CLINICAL INSTRUCTION IN INTERNAL MEDICINE

Medical Clinics of Chicago

This new publication is devoted exclusively to *Clinical Internal Medicine* in all its departments—Diseases of Children, Contagious Diseases, Fevers, Neurology, Dermatology, General Constitutional and Functional Disorders, X-ray Therapy, etc. You get the bedside and amphitheater teachings of such leading Chicago internists and specialists as Mix, Williamson, Tice, Hamburger, Pusey, Abt, Hamill, Preble, Case, Tivnen, Brophy, Friedman, Zeisler, representing many of the largest hospitals of that city, with their wealth and diversity of clinical material. These Clinics are stenographically reported by a corps of competent medical stenographers and thoroughly edited by the clinical teachers themselves.

The widest variety of cases is included, bringing out forcibly every feature of history-taking, diagnosis, treatment and general management. The cases are illustrated with x-ray pictures, photographs, pulse-tracings, and temperature charts; the technic of all laboratory tests is given in detail, and every aid that can serve to make the diagnosis and treatment of the cases thoroughly clear to the general practitioner is emphasized. The method of eliciting a complete and accurate history, and the correct interpretation of that history in diagnostic terms, is given particular attention.

Journal Indiana State Medical Association

"The publishers have secured the clinics of some of the best clinical teachers of Chicago. It is obvious that no one who is sincere in his desire to learn and to be up to date in modern medicine can afford to do without these valuable publications."

Issued serially, one octavo of 200 pages, illustrated, every other month. Sold only by the Clinic Year (July, 1915-May, 1916). Six numbers: \$8.00 net; cloth, \$12.00 net.

W. B. SAUNDERS COMPANY West Washington Square, Philadelphia

FRANK F. WEDEKIND---TRUSSES, ELASTIC GOODS
ABDOMINAL SUPPORTERS

(SEE PAGE VIII)

SHERMAN'S BACTERINS



This entire Building used Exclusively for making
Sherman's Bacterins

*Preparations with
a Record for*

RELIABILITY

31 Different Varieties

TYPHOID FEVER

yields more readily to

TYPHOID VACCINE

than to any other remedy.
When given early it often
aborts the course of the disease.

Write for Literature

G. H. SHERMAN, M. D.
DETROIT, MICH.

*Daily Users of Vaccines
use Sherman's*

FRED I. LACKENBACH—Biologic Depot

908 BUTLER BLDG.

135 STOCKTON ST.

SAN FRANCISCO

Dr. H. M. Alexander & Co.

Pasteur

Anti-Rabic Treatment

Dr. H. M. Alexander & Co.

Glycerinated

Vaccine Virus

Dr. H. M. Alexander & Co.

Concentrated

Diphtheria Antitoxin

Dr. H. M. Alexander & Co.

Immunizing

Typhoid Vaccine



Produced under U. S. Government License No. 3
By Dr. H. M. Alexander & Co., Marietta, Pa.

Telegraph or Mail
your Orders to

FRED I. LACKENBACH

908 BUTLER BLDG.

SAN FRANCISCO

Pacific Coast Depot



California State Journal of Medicine.

Owned and Published Monthly by the

Medical Society of the State of California

PHILIP MILLS JONES, M. D., Secretary and Editor

PUBLICATION COMMITTEE

Fayette W. Birch, M. D.

René Bine, M. D.

Wm. P. Lucas, M. D.

Sol. Hyman, M. D.

Advertising Committee:

R. E. Bering, M. D., Chairman

Thos. E. Shumate, M. D.

ADDRESS ALL COMMUNICATIONS

Secretary State Society, . . .

State Journal, . . .

Official Register, . . .

Butler Building,

San Francisco.

Telephone Douglas 2537

IMPORTANT NOTICE!

All Scientific Papers submitted for Publication must be typewritten.

Notify the office promptly of any change of address, in order that mailing list and addresses in the Register may be corrected.

VOL. XIV

APRIL, 1916

No. 4

EDITORIAL NOTES**FRESNO MEETING, APRIL 18, 19, 20.**

Railroad rates. Pay your full fare going and get a receipt-certificate from the ticket agent. Have this signed by the Secretary at Fresno and present it to the ticket agent at Fresno when you are leaving; he will issue you a return ticket for one-third fare. Round trip, therefore, is one and one-third the regular fare.

Rooms: Write to Dr. Kenneth J. Staniford, Fresno, stating what accommodations you want, and ask him to make the reservation.

Entertainment. A very attractive program of entertainments has been arranged by the local committee, and it may safely be said that those who attend this meeting will remember it for many a long day.

DO NOT FORGET to ask for and receive a receipt-certificate when you buy your going ticket. Failure to do so cannot be rectified.

"FRESNO"**1916**

Dear Doctor:—

Wishing to make this session of the State Society one of the most successful and enjoyable meetings ever held, we make this personal appeal to every reputable physician in the state to meet with us in April. With Fresno as the geographical center of the state, easily accessible from all points, by both rail and auto; and a program which will be both profitable and enjoyable, we can promise you a full return on your investment of time and expenditure.

Why not leave your work and cares for a day or two, relax and come to the "Raisin Center" where sunshine, good cheer and a cordial welcome will await you? Come and join with us for your own profit and the success of the meeting. Come.

Cordially yours,

FRESNO COUNTY MEDICAL SOCIETY.

MEDICAL DEFENSE AND INSURANCE COMPANIES.

In spite of numerous items in the JOURNAL explaining, as was thought, carefully and clearly the attitude of the State Society in the case of a member who holds indemnity insurance and is sued, the situation seems to be vague in some minds, as will appear from a communication from Orange County, which see elsewhere. In the first place, the State Society's legal department is on the friendliest terms with all the insurance companies and we work together when circumstances warrant it. No member need take out insurance unless he fears that some time or other a judgment by a jury may be given against him, or he may be grossly careless and create a situation which will require him to compromise by a money payment. The State Society will fight all suits against members and pay all court costs, if they have no insurance; if they have insurance, the member may choose whether the State Society shall protect him or whether the insurance company shall do it, and if he elects to have the insurance company appear for him, and if we think that their attorney has not enough experience in this work to do it right, our own attorneys will assist in the case. Nine times out of ten—or more—it is not at all necessary for more than one attorney to spend time on a case; in the early stages, it is never necessary. If the holder of indemnity insurance does not notify the company immediately he is threatened or sued, he violates a clause in his policy, thereby cancelling the policy, and the money he has paid for premiums is thrown away. A number of members who have insurance and have been sued, seem to have had the idea that many attorneys would be more protection to them than one or two; in one instance a member wanted five! This is not the case; it is not only unnecessary, but it has a bad effect on a jury to see so many lawyers on the side of the defense. In the matter of costs, it is but right that the company should do what it has undertaken and been paid to do—and so we let the company pay the costs. Is there anything peculiar about that? If we find that the attorney for the company is a good and competent attorney and is handling the case properly, we let him go ahead with it; is there anything peculiar or out of the way about that? If the company makes any bluff about not being liable for the defense, we tell them we will do it; is there anything peculiar about that? Is it common sense to have two or three people doing what one could do at least as well?

ORANGE COUNTY AND MEDICAL DEFENSE.

It seems strange that, of all sections in the State, a county in the south should take the attitude displayed in the following circular letter emanating from Orange County; the south, where most of our suits originate—the section that has kept the State Society poor for the last three years! The Orange County letter and the reply of the Secretary are published without comment except to say that 1915 closed with the largest membership the Society has ever known—2557.

ORANGE COUNTY MEDICAL ASSOCIATION.

Santa Ana, Cal., Feb. 15, 1916.

The following resolutions were adopted by the Orange County Medical Association at its February 15th meeting.

A few words of explanation may be necessary.

Our surgeons have found that the State protection is unsatisfactory and inadequate. First: The State does not pay court expenses and the court expenses may be heavy even if the defendant wins the suit. Second: If the judgment goes against the defendant the State does not liquidate the judgment.

These conditions force the surgeons to carry indemnity insurance. They feel that it is an unjust burden to compel them to carry the State insurance that can be of no use to them. Some of our internists feel that they do not need the protection at all.

It seems to us that only a limited few are benefited by the present defense system, and that the payment of that part of the dues devoted to the State defense fund should be made optional with the members, or if enforced that the State should afford us protection equal to that given by the protective associations.

Whereas, Membership in the State Medical Society is compulsory to those who desire membership in the American Medical Association and its component societies;

Whereas, The State society assesses each of its members four dollars per annum for a defense fund;

Whereas, The State society does not afford the protection equal to that given by the various medical protective associations, thereby driving many of its members to seek the protection of said associations;

Whereas, The State society has ruled not to associate itself with the defense companies, and that such a ruling appears unjust and will undoubtedly lessen the membership of the State society; therefore, be it

Resolved, That this association respectfully petition the House of Delegates either to make the four dollar annual fee, for the purpose of protection, optional with its members; to abolish the protective feature entirely, or raise the standard of protection given by the State so-

ciety until it equals that afforded by the protective associations.

JOHN L. DRYER,
CHAS. D. BALL,
JOHN I. CLARK,
Committee.

February 24, 1916.

Dr. John L. Dryer,
Santa Ana, California.

Dear Doctor:

I have before me the resolutions adopted by the Orange County Medical Association at a meeting held on February 15th.

I am exceedingly sorry that your Committee did not look into this matter carefully, either by consulting this office or by consulting our attorney in Los Angeles, Mr. Morrow. Most of the statements made in your preamble and resolutions are not in accord with the facts, and, as you know, any such statement which contains matter generally known to be inaccurate is in its entirety looked upon with suspicion.

Specifically answering your letter, I will take the liberty of placing the facts in the case before you.

You say, first: "The State does not pay court expenses and the court expenses may be heavy even if the defendant wins the suit."

Where you could have received any such inaccurate information as this I have no idea, for the State Society has paid in every case all the expenses of suits, court costs, etc., except in such cases as an insurance company paid these expenses. If any member in good standing in similar circumstances has ever paid any of the expenses of a suit, it is unknown to this office.

Second: "If the judgment goes against the defendant the State does not liquidate the judgment."

This is about the only statement that is absolutely true. The State does not reimburse a member in the amount of a judgment if a case goes against him. This matter was carefully thrashed out in April, 1909, by the House of Delegates, and the alternate plans of merely defending, or of defending and paying judgments, were thoroughly discussed and the former adopted.

The general tone of the next two paragraphs of your letter would indicate that you thought only surgeons were made the object of this sort of persecution. This is not the case. Some of the worst suits we have had have been medical or obstetrical cases. Furthermore, you suggest that only a few have received the benefits of this work. Please allow me to call your attention to the fact that more than ten per cent. of the entire membership of the Society have either been sued or threatened with suits, which matters were handled by our legal department. Furthermore, a very large additional number of members have received intimations of possible future suits, which matters have also been handled and in most instances the situation straightened out.

Third: "The State Society assesses each of its members four dollars per annum for a defense fund."

The State Society does not assess its members \$4.00 for any particular purpose. There is no segregation of the assessment. The amount of the assessment is for all the activities of the Society.

Fourth: "The State Society does not afford the protection equal to that given by the various medical protective associations, thereby

driving many of its members to seek the protection of said associations."

This is a bald statement which you would find very difficult to substantiate. We have received any number of letters advising us that the legal work of the State Society was of the very highest and best class. We know this to be the case, and so even in actions defended by attorneys of insurance companies we watch the proceedings carefully to make sure that the insurance company's attorney is handling the case properly.

Fifth: "The State Society has ruled not to associate itself with the defense companies, and that such a ruling appears unjust and will undoubtedly lessen the membership of the State Society."

No such rule as this has ever been made. In fact, and to the contrary, the relations of our legal department with all the insurance companies are most friendly, and every case that arises is carefully scrutinized by our attorneys in consultation with the attorneys of the insurance company. The only rule in any way referring to this is intended to make the insurance company pay the expenses which it contracted to pay and thus relieve the Society of this additional burden. This rule has been entirely satisfactory to the insurance companies and it has saved us several thousand dollars. When we have reason to believe that the attorney retained by the insurance company is for any reason not handling the case properly, our attorneys become associated and in a number of instances have taken over the entire conduct of the case and have won the action.

Sixth: "Resolved, That this association respectfully petition the House of Delegates either to make the four dollar annual fee, for the purpose of protection, optional with its members; to abolish the protective feature entirely, or raise the standard of protection given by the State Society until it equals that afforded by the protective associations."

The various possible actions suggested in this paragraph are, of course, up to the House of Delegates, and whatever they determine will be carried out. The last portion of it, however, would be impossible to carry out, as neither the House of Delegates nor any individual or collection of individuals could raise the standard of protection given by the State Society.

There is one other point, not mentioned in your letter but frequently misunderstood, and that is a popular supposition that the State Society will not appeal cases. This error comes from a lack of knowledge of the law in the case. Incidentally, I may say that we now have three cases on appeal or in preparation for appeal. Only certain cases can be appealed owing to a well-established attitude of the Courts of Appeal of this State. They will not under any circumstances review the verdict of a jury unless it be made clearly evident that in the course of the trial there have been errors of law prejudicial to the party against whom the verdict was rendered. You can see from this that if the record is clear, if prejudicial errors of law have not intruded during the trial, it is useless to appeal for the Court will not listen to the case nor will it be permitted to be presented.

All of these matters you would quite easily have obtained from this office or from Mr. Morrow in Los Angeles, and I deeply regret that you did not communicate with him before making the report of your Committee.

Cordially yours,

PHILIP MILLS JONES,
Secretary.

PMJ:S

MEMBERSHIP.

The question of the status of a delinquent member of a county society and his relation to the State Society in delinquency and if he pays up, is a matter that frequently comes to our attention. It was raised recently by a Councillor, and the letter sent him in reply covers the case so fully that it is here printed:

February 23, 1916.

Dr. Jas. H. Parkinson,
1005 K St., Sacramento.

Dear Doctor:

Answering your letter of the 21st, under the By-Laws of the State Society, the name of any physician who has not been reported and paid for before March 1st, but who may have been on our rolls the previous year, is dropped as of the first of the current year. He is not a delinquent member; he ceases to be a member, and he remains not a member until such time as a County Society reports his name as a member of that County Society and remits his assessment.

If he is dropped or suspended from a County Society for one or two years, it is a matter of business indifference to us, because he simply is not on our rolls as a member; and if he subsequently pays up in his County Society, he becomes a member of this Society only from the date when he is last reported and the assessment of the current year paid. There is no possible way in which we can re-instate him as to membership in a previous year.

Under our rules, a member to receive the benefit of medical defense, must have been a member in good standing at the time when the alleged malpractice occurred and also at the time when the suit was filed. In the case you cite, if one who was suspended for non-payment of dues during the whole of 1915, but who has now paid to your Society this amount and the dues for 1916, should be sued for an act occurring during 1915, he is without the provisions of our medical defense and consequently not entitled to its benefits. The date of the alleged cause of action is as important as the date of the filing of the complaint, and both dates must be within the times at which the individual was a member, fully paid up and in good standing.

Cordially yours,

PHILIP MILLS JONES,
Secretary.

PMJ:S

ACCOUNTS.

In this number of the JOURNAL will be found the report of the auditors covering the year 1915. It shows some small gain over the previous year, but not much; the excessive cost of some suits for damages for alleged malpractice in 1913 and 1914 piled up a heavy burden to carry. However, our credit is good and we have no trouble in borrowing some money toward the end of the year, to tide us over. If you examine the statement, you will see that the bank paid us more money in interest on our balance during the early part of the year, than we paid them for the loan of \$1,500 at the end of the year. The accounts have been put

in charge of a clerk, and a new system of accounting for subscriptions has been started. Also, the reporting of members is no longer accepted on prescription blanks, the back of an envelope, etc. All names must be reported on the pink sheets supplied to secretaries, and when names are not so reported the report is sent back to be properly made. There are now three clerks working in your office, and they are busy all the time. Everything relating to money goes through at least three hands and thus a safeguard is placed upon all of us. About two-thirds of the Secretary's time is taken up with the legal work; suits and threats continue to increase. Not only are the accounts audited each year, but also, for the last two or three years, members of the Council have gone personally to the auditors and have discussed with them the condition of the office, methods of accounting, system, etc. If it were not for the burden of medical defense, the Society would be in excellent financial condition; but if the Society did not do it, it would cost the individual members a great deal more than we are now paying.

CO-OPERATION WITH INSURANCE COMPANY.

Speaking of "lack of co-operation with the insurance companies," the following letter is rather interesting. It is from a member who holds insurance and who was sued. We thought it safer, for certain reasons, not to leave the defense of the suit to the attorney for the insurance company, and so our own legal department took charge of the trial of the suit. To be sure, we let the insurance company pay the court costs, etc., and their attorney was associated in the action; but our attorney did all the actual work of the trial. Incidentally, it cost the Society about \$275, and under the rules, we were not called upon to do anything.

February 15, 1916.

State Medical Society,
San Francisco, Cal.

Dear Sirs:

It gives me great pleasure to acknowledge my gratitude to the Society for their co-operation and efforts in my behalf in the recent damage suit against me which has ended so pleasantly for us.

Mr. _____ has extended every courtesy in the matter, and together with Mr. _____ of the _____ Company, they have left nothing undone, and the results must be very gratifying to them as they are to me. It is a great comfort to all of us to feel that the Society is back of us. And the fact that so few judgments are rendered against the physician, should prove to the public that they are black-mailing schemes on the part of grafters to obtain money in an easy way. I wish something could be done to protect us from such attacks, and I feel that we should be able to get a bill through compelling these people to put up a bond for at least \$1000.00 before beginning a suit of this kind. I don't think there would be many suits.

Thanking you again, I am,

Very sincerely and fraternally yours,

CURIOUS, TO SAY THE LEAST!

The *Southern California Practitioner*, in its issue for February, 1916, for some reason or other, prints a few things that are more or less direct slams at the State Society; more of them later. It also prints on the front cover the following announcement, in large type:

"Our advertisers are worthy of your support, and if you do not patronize them, you are not rendering the best service to your patients."

Here are some of the advertisements that are said, by that powerful aid and guide to the medical profession, the *Southern California Practitioner*, to be worthy of your support and without using which you are not practicing medicine properly:

Gray's glycerine tonic; Angier's emulsion; Antiphlogistine; Glycophymoline; Sal hepatica; Ergoapiol; Kutnow's powder; Hayden's viburnum compound; Hagee's ext. ol. morrhuae comp.; for information in regard to these "worthy" remedies, see their exposes in various issues of the *Journal A. M. A.*

And the same journal that recommends these proprietary medicines that have been shown up by the Council on Pharmacy and Chemistry, has the nerve to (1) ask for life subscriptions to itself for the purpose of paying for the defense of a suit brought by the government against it because it published a wholly nasty and uncalled for article; (2) slams the medical defense of the State Society and suggests that it be done away with—which, incidentally, would be profitable for the State Society; (3) slams the State Society for trying to make a fair agreement and come to a friendly understanding with the insurance companies doing industrial accident work; for trying to do just what the American Medical Association is now trying to do, come into friendly relations with those who are active in putting forth new legislation that is rapidly approaching State medicine, rather than to oppose, most hopelessly, the movement and so make more trouble.

Truly, when all is considered, the *Southern California Practitioner* is a good and holy guide to have—if you feel crooked tendencies—and from its contents it is fair to presume that any one of its statements is as true as any other. Look up some of the frauds advertised.

AUTOMOBOLISTS ATTENTION!

TO FRESNO BY AUTOMOBILE.

The Touring Bureau of the California State Automobile Association has furnished the following information which will undoubtedly be of great assistance to those contemplating such a trip:

Transbay motorists will of course follow the State Highway from Oakland. Those crossing from San Francisco will take the Creek route ferry, landing at the foot of Broadway in Oakland. Proceed out Broadway to Twelfth street, turn right on Twelfth and continue to Thirteenth avenue; turn left on Thirteenth avenue and continue one block to East Fourteenth street; continue out East Fourteenth street to Twenty-third avenue; turn left on to Twenty-third avenue and continue to Foothill Boulevard; turn right on to Foothill Boulevard and continue to just in the edge of the town of Hayward. This stretch is all macadam road. Turn left at sign "To Dublin," and continue over the Dublin Boulevard to Santa Rita, 12.5 miles of excellent paved State Highway. The main road between Santa Rita and Livermore is under highway construction, necessitating a detour via Pleasanton. Turn right at Santa Rita, and continue over a splendid gravel road to Pleasanton, thence to Livermore.

Leaving Livermore via State Highway our party will proceed through the Altamont Pass, which is a winding road passing between rolling hills and with no grades to exceed 5%. This portion of the route is all paved with the exception of a short stretch which has been graded for the State Highway, and in good condition. From the pass the route lies through level, green fields to Tracy, Banta and to the junction of the roads at the Mossdale school, where the right hand fork is taken to Manteca, thence south over smooth State Highway through Ripon, Salida to Modesto. The distance between San Francisco and Modesto is 85.1 miles. Proceeding south from Modesto our party will bowl along over roads as smooth as a table, through the towns of Ceres, Keyes, Turlock, Livingston, Atwater, to Merced, a distance of 38.5 miles from Modesto; thence continuing south through Athlone, Minturn, Chowchilla, Califa, Berenda, Madera, Herndon to Fresno, a distance of 176 miles from Oakland.

Parties motoring from those sections around Salinas will proceed to San Juan or Gilroy, thence over the Pacheco Pass road to Madera. This route is as follows: East from Gilroy over Pacheco Pass with grades from 10% to 14% to Los Banos, a distance of 50.7 miles, thence southeasterly to South Dos Palos taking new road to Firebaugh, thence to Madera, where State Highway is encountered and balance of trip as above. The entire stretch from Gilroy is a dirt road but in fair condition.

Those making the trip from Southern California will have equally as good roads and just as beautiful scenery.

This route is as follows:

Leaving Los Angeles from the Automobile Club at 1344 South Figueroa street go north on Figueroa street to Second street, turn left at this point and go two blocks to Beaudry avenue. Turning to the right here continue to Sunset Boulevard, thence follow same to Hollywood, all paved. Arriving at Cahuenga avenue, in Hollywood, follow signs over Cahuenga Pass. Arriving at the foot of the Pass on the northern side, take the right hand road at the junction of the Lankershim, San Fernando and Ventura State Highway and follow through Lankershim to the San Fernando Boulevard, thence through San Fernando, Newhall and Saugus. Swinging left around the garage just at the northern end of Saugus, a small detour is necessary, thence back to pavement and continue 2½ miles, then it is necessary to follow temporary signs through Castiac Station to the Castiac Creek where pontoon bridge will be found over the creek. This bridge should be taken very slowly. Continuing along the Castiac Valley to the entrance of the Ridge Route over fair dirt road. No grades over 8% will be encountered on the Ridge road. Extreme care should be used at all turns as it is impossible to see a car coming from another direction. Arriving at the northern end of the Ridge Route, some 71 miles from Los Angeles, pavement is encountered and will be followed past Crane Lake and Bailey's Ranch to the Kern County Line. From here on excellent dirt road is encountered over Tejon and Grape Vine Grades to the foot of Grape Vine Grade on the northern side. Here our party again finds pavement to Bakersfield, some 32.5 miles. North of Bakersfield, pavement is had through Famosa and Delano to the Tulare County Line, thence over good dirt road through Tipton, Tulare to Visalia and Goshen. State Highway is now completed from Goshen to Fresno.

MEDICAL DEFENSE

The map shows the location of all suits filed and gives an explanation of the marks in the counties.

There have been three (3) judgments against members in seven (7) years.

The total amount of these judgments was \$3,960.00.

The cost of the work for the first
five (5) years was.....\$13,323.07
for the last two (2) years..... 16,157.04

Total\$29,480.11



REPORT OF CASES OF MALIGNANT TESTICLE.*

By W. P. WILLARD, M. D., San Francisco.

In presenting these few cases of cancer of the testicle, I am doing so with the idea of showing the different courses taken by them after operation, and the ideas of different surgeons as to what is considered proper treatment.

The classification of these tumors is still open for debate. Ewing thinks that practically all malignant tumors of the testicle originate from pre-existing teratoma. The tumors in which no teratomatous elements are found are those in which these elements have been destroyed by the advancing carcinoma. The examination in regard to prognosis may be an advantage, as shown by a histological examination of Chevassu's 100 cases:

Forty-seven cases are described as "epithelioma seminal" or "semenoma." Of these 16 were well from 4 to 10 years.

Fifty cases as "mixed tumors." Of these 3 were cured.

Three cases as "sarcoma." All died.

Of course the interpretation of the cellular arrangements by different pathologists will vary, but it seems that a classification like that of Chevassu would be of some assistance.

The prognosis of this condition is far from good, and after reading the reports of a large number of cases one gains very little confidence. The report of 77 cases followed by Kober shows that 41 died within the first three years; 23 of these within five months of metastases and 11 others within a year. Two died of recurrence after three years. Codman in the report of 56 operated cases that had been traced, shows 13 living at an average time of eight years after operation. Twelve died of other causes. Chevassu reports 19 living after four years out of 100 cases.

The duration of the disease is variable and the time factor is not absolutely reliable in regard to the extent of the disease. Although the growth as a rule is very malignant, especially in undescended testes, cases of 20 and 22 years' duration have been reported. Hinman in his collection of cases found the duration of the disease before operation from two months to 12 years.

My first case was a man 26 whose previous and family history are unimportant. No history of trauma or venereal diseases. He first noticed an enlargement of the left testicle in July, 1914, at which time he was in Paris. He consulted a physician who advised orchidectomy.

I saw the patient two months later, at which time the left testicle was about three times its normal size, regular, not tender, and non-adherent. Vas and cord normal on palpation. Operation consisted of the removal of the testicle and tunica albuginea, and the cord as high as the internal ring. The wound healed in a few days and the patient felt well until January, when he complained of some tenderness on the left side of the abdomen. At this time a well marked tumor could be felt in the left lower quadrant. The

patient is still alive but bedridden for the last few weeks.

The pathological report by Dr. J. V. Cooke is as follows:

S.14.325. Specimen consists of an egg-shaped mass measuring 9.5x6.5x5.5 cm. It has the general shape of a testicle and is invested by a fibrous capsule, apparently the tunica. The serous surfaces of the tunica are for the most part smooth and glistening, but there are some fibrous adhesions in the region of the epididymis. The globus minor is enlarged and firm. It measures 6x3x2 cm. The testicle is pale and the consistency firm. On section the testicle and the enlarged globus minor are similar in appearance and there is no line of demarcation between them. The cut surfaces show a pale gray, somewhat translucent tissue in which there are scattered irregular, opaque yellowish gray foci of necrosis from 3 to 10 mm. in diameter. Fine translucent grayish bands of fibrous tissue traverse the tumor dividing it into small alveoli. The cord does not appear to be invaded by the growth.

Microscopic Examination. Sections are made from several portions of the growth and all these show the same picture. The tumor is composed of irregular round or hexagonal cells which have large oval, vesicular nuclei. The protoplasm of the cells, for the most part, is not seen, the nucleus being surrounded at a slight distance by a halo-like rim which apparently makes the boundary of the cell. Occasionally, however, the protoplasm has a finely granular appearance but in most of the cells the protoplasm has been apparently dissolved away. The tumor is arranged in alveolar masses separated by strands of fibrous tissue. In the alveoli, however, there is only an occasional thin strand of connective tissue running down from the fibrous septum. No definite mitotic figures are found. Here and there through the sections there are irregular areas of pink-staining necrosis. The blood vessels which have well-formed walls runs in the fibrous septa and there is also a moderate lymphocytic infiltration of the connective tissue. Section through the periphery of the tumor shows a fibrous encapsulation.

Microscopic Diagnosis. Epithelial testicular tumor probably of teratomatous origin.

The second patient was seen with Dr. A. J. Sanderson. He was 20 years of age with no history of trauma or venereal disease. The testicle was noticed slightly enlarged in July, 1912, and gradually increased in size until January, 1913, when I saw him. The tumor was about four times the size of a normal testicle. The scrotal veins were prominent, the cord was normal in size and the scrotum freely movable.

Dr. Sanderson removed the testicle and tunica albuginea and the cord within the inguinal canal. He reports that there was no further evidence of trouble for about a year, when a nodular growth was noticed at the end of the severed cord. This was removed together with the cord well above the internal ring and the tissue surrounding. This area was drained for three weeks after which an inguinal gland became prominent. This has been watched for some time and is getting smaller. He has given the patient some X-ray treatment over this region. Pathological report by Dr. J. V. Cooke:

S.13.24. Specimen consists of an irregular globular mass measuring 6x6.5x7.5 cm. The surface is smooth and apparently composed of tunica albuginea. At one portion there is seen what appears to be the epididymis and stump of the spermatic cord, measuring 3 cm. in length. On section the cut surface shows an irregular division

* Read before the San Francisco County Medical Society, August 31, 1915.

into alveoli by fibrous septa. The tissue in these alveoli is composed of granular, gray tissue which crumbles, to a certain extent, as the tissue is cut. This material, evidently composed of the tumor cells, is apparently joined together very loosely by fibrous tissue. Beneath the region of the epididymis there is a compressed rather uniform tissue which may be the testicular tissue. This is surrounded by fibrous tissue and is not invaded by the near-by tumor. The tumor mass is encapsulated everywhere by fibrous tissue. The portion of the cord shows no evidence of invasion of the tumor.

Microscopic Examination. Sections taken through several portions of the tumor show the same picture. There is an irregular division of the tumor cells into aveolar masses by fibrous septa. The cells have irregular oval vesicular nuclei with large distinct nuclei, and a fairly abundant granular protoplasm. They are irregularly hexagonal in shape and there is found a very slight amount of interstitial fibrous tissue. Only occasionally are a few fibrils seen and these are not connected with the cells themselves. The blood vessels are relatively scarce and lie in a small amount of fibrous stroma with a slight perivascular lymphoid infiltration. The tumor at the edge shows a fibrous capsule in which there are occasionally seen small masses of tumor cells. Compressed testicular tubules in a fibrous stroma are seen at one edge of the section outside of the fibrous encapsulation of the tumor. These tubules are atrophied and show no evidence of spermatogenesis.

Microscopic Diagnosis. Epithelial tumor of the testis probably of teratoid origin.

Both these testicular tumors belong to that group of cases sometimes termed "alveolar sarcoma." They are probably, however, epithelial in origin and it is probable, as stated by Ewing, that all such tumors should be included in the group of teratoma.

The third patient, seen with Dr. James Blair, was a man of 30 whose father had a tumor of the testicle which ulcerated and drained for two years before his death.

In May, 1913, the patient had gonorrhea which was cured after two months' treatment. Three months later he noticed the left testicle increasing in size. In December the tumor was quite painful. The tumor was regular, not adherent to scrotum and not tender. The weight of it caused more or less pain in the groin. Cord normal in size.

Dr. Blair did an orchidectomy in May, 1915, and reports that there was no post-operative trouble and the patient is in good health. Pathological report by Dr. J. P. Pratt:

Specimen consists of an oval mass, 10x8x7 cm. The surface is covered by a smooth capsule which is everywhere intact. The specimen has been preserved in formalin so that the gross structure is somewhat changed. At one end of the tumor is a small circumscribed mass about 3x2 cm. which is probably epididymis. On section the tumor shows numerous cystic areas of varying size. The ground substance is fairly homogeneous and is now opaque; cuts with some resistance. There are numerous hemorrhages and many large blood vessels.

Microscopical Examination. Section shows a varying picture. There are large numbers of cells which are undifferentiated. There are others which are of definite epithelial type. These occur

as a rule around a lumen. They vary from high columnal to cuboidal and almost squamous. In some of the acini the cells have been cast off and have lost their staining reaction, somewhat simulating epithelial pearls. In one portion of the section there are grouped together a large number of blood vessels varying in size and shape. There is also an area of hyaline cartilage. The major portion of the section is made up of cells simulating fibro-blasts, some being so undifferentiated that they look like syncytium.

Microscopical Diagnosis. Teratome of testicle.

The first case was operated upon about two months after the appearance of the tumor and had the lumbar glands involved within five months.

The second case was operated six months after the appearance of the tumor and had local recurrence 18 months after.

The third case was operated 21 months after appearance of tumor and is well four months later. This, of course, is too short a time to draw any conclusions except in comparison with the first case.

The treatment of this condition is surgical and the statistics of the advocates of different procedures are interesting.

The necessity of removing the cord with the testicle is important as is shown by the second case. The advantage of an extensive resection of the contiguous parts in cases where the disease has not invaded the superficial tissues is doubtful.

Stimson recommended the removal of

1. The diseased testicle and its coverings.
2. The portion of the scrotum surrounding the diseased organ.
3. The cord as high as the internal ring.
4. The inguinal glands, fat, etc.

If the tumor has invaded these tissues it will have in all probability involved the lumbar lymphatic glands and we must consider their removal. Chevassu advocated the removal of these glands as a routine procedure and Hinman in a recent article describes and recommends it.

The operation is an extensive one and the mortality is high. In 44 cases collected by Hinman, three died of pneumonia and two of peritonitis, giving a mortality of 11%; 20 of the cases are living with only an average time of 20 months; 16 have died of secondary involvement; 22 of the cases showed an involvement of the glands that were removed and in 50% of these the involvement was so extensive as to render the case inoperable.

In three cases no lumbar glands were found.

Almost 50% of the cases operated upon showed either no glands or no involvement; 25% showed the condition so far advanced as to be inoperable. With an operative mortality of 11% this operation seems to offer very little encouragement. Another point against the operation is that these glands form a very imperfect protection. Most was able to send injecting fluid from the testicle to the subclavian vein.

Kober's mortality list is of interest in this connection:

1 died within 32 hrs.				Septic peritonitis, metastatic tumor lung.
1	"	2	dys.	" " kidney.
4	"	15	dys.	" " abdomen & pelvis.
8	"	1	mo.	Metastatic tumor internal organs.
4	"	2	"	" " " "
3	"	3	"	" " " "
1	"	4	"	" " omentum.
1	"	5	"	" " abdomen.
3	"	7	"	" " and inguinal region.
2	"	12	"	" " lung and spleen.
1	"	18	"	" " lung.

Coley recommends the removal of the testis and cord followed by prolonged toxin treatment. He gives a series of 64 cases, many of them far advanced at the time he first saw them. In nine the toxins were given immediately after the operation; 11 cases treated by this method are well after three years. One case of note is that of cancer of an undescended testicle well eight years after operation. In his list I think we can consider nine cases as being well, giving a percentage of 15.5 cured.

After orchidectomy Codman and Sheldon in their analysis of 64 cases gave 41.07% cured. The average time of those living is given at nine years.

Kober found in 113 cases, 20% well after three years.

Chevassu gives 19% well after four years.

Discussion.

Dr. Frank Hinman: I think Dr. Willard is unfair in his conclusion that radical operation is never justified. By his own results two cases have died, and one, as he states, is in a dying condition, so that obviously, castration does not give best results. It would seem that he has not stated in all fair justice to the radical operation the results that have been obtained by it.

In regard to the mortality; eleven per cent. mortality reported is that of forty different operators. Three of these deaths were from pneumonia, and three from peritonitis, which means poor surgery. In the analysis of these cases, results have been incomplete, because of the many operators, and their scattered location. Answers to letters written to all, were received from only a small percentage. All of the cases, however, have been reported, although some have been followed for only a short time.

To quote part of the conclusion of the analysis made by me last year, which Dr. Willard criticized: "Sufficient time has not elapsed and the cases are so scattered that it has not been possible to get the ultimate result in all of the patients treated radically. Forty-six per cent. are alive, one for five years; two for over two years and eleven for one year or less. There is a probable cure in at least four cases which had lumbar glands invaded with cancer at the time of the operation. Simple castration could not have benefited any of these cases, and their cure is directly attributable to the early and clean removal of the affected lymph area."

Since writing this paper, Dr. Young has performed two of the operations at Johns Hopkins Hospital, and he found the operation by no means as difficult and extensive as it would appear.

The primary seat of metastasis of cancer of the testicle, is to a small group of glands upon the aorta and venacava. It is true that Most was able to send injecting fluid all the way up into the subclavian vein from the lymphatics of the testicle, but nevertheless, the primary group of glands are

those over the aorta and venacava. Secondary metastases to glands above occur only later.

The only hope, therefore, in a radical operation, is to remove these primary glands before secondary involvement has occurred. Obviously, castration will cure no case in which the primary glands, or any other glands are involved, and just as obviously, the radical procedure will cure no case in which the invasion has extended beyond these primary glands.

Radical procedure should never be performed when the retroperitoneal glands are palpable. Statistics show that castration will cure only about fifteen to twenty per cent., so that just as in the case of cancer of the breast, or cancer in any other part of the body, the radical operation to be of value, must be performed early, and therefore the real solution of a lower mortality in this disease, is early diagnosis. A small group of cases will undoubtedly be cured by radical operation, which castration alone would never benefit.

While the operation does appear radical and technically difficult, it is not difficult, and the mortality reported is not a true mortality, and is not the mortality that should occur in the hands of a good surgeon.

Careful selection of cases for a radical operation should be made, since it is applicable in only a small group of cases.

Dr. Martin Krotoszyner: I have only seen one case of true sarcoma of the testicle, in which the histological diagnosis was verified by Dr. Ophüls. A young man of 26 with a positive Wassermann, presented a smooth, non-lobulated tumor of the left testicle. Since no result could be obtained from specific treatment, castration was performed. The patient left the hospital about ten days after the operation. His death occurred, as I was informed, about three months later.

I believe that malignancy of the testicle should be treated in the same manner as that of other organs and receive the benefit of a radical operation right from the start. Considering the utter hopelessness of the ultimate outcome of malignant testicular tumors and the poor results of simple castration, I believe that radical operation should be performed, in the future, in all instances, in which the diagnosis has been established, and in spite of the grave operative risk connected with the procedure.

Dr. Willard: I was supposed to take ten minutes to read this paper, and so it is impossible to go into the pathological discussion.

I am not on the side of the conservatives. I am not on any side. I am open to conviction. I have not been shown as yet where the advantage lies in any operation. The more you study statistics, the more at sea you are. How do you know the disease has not progressed beyond the lumbar glands? In the reports I gave, in at least fifty per cent. the glands were too far involved to be operable.

You cannot take one good surgeon's mortality. You have to take the average mortality. In such an operation and with the length of time it takes to do such an operation, the mortality will surely be over five per cent.

**MEDICAL SOCIETY
STATE OF CALIFORNIA
MEETS IN FRESNO
APRIL 18, 19, 20
1916**

A WATER-BORNE EPIDEMIC OF TYPHOID FEVER AT SANTA BARBARA.

By J. C. GEIGER, M. D.,

Assistant Director of the Bureau of Communicable
Diseases, California State Board of Health,
Berkeley, California.

Pursuant to instructions received from the Secretary of the California State Board of Health, an investigation of a number of cases of typhoid fever, occurring in Santa Barbara, was carried on by the Bureau of Communicable Diseases, the source of infection of the outbreak not having been determined. Co-operation had been previously asked of the State Board of Health by Dr. R. F. Winchester, Health Officer of Santa Barbara.

At our initial conference, Dr. Winchester informed me that there was in Santa Barbara at that time a number of suspected cases of typhoid fever, the diagnosis of the majority being somewhat in doubt. He also stated that some of the cases had not been reported to his office.

Of the cases seen with the attending physicians, six were regarded as clinically typhoid by myself, and subsequent proof was obtained by positive Widal's at the State Hygienic Laboratory, Berkeley. One of the cases was seriously ill, having suffered a relapse, and the remaining five were practically well. In two of these cases a diagnosis of typhoid had been made, in two a diagnosis of para-typhoid, and in two no diagnosis was given.

In going over the history, the probable date of the first symptoms of the majority of these cases was around September 20. One case came down on September 16, one on September 18, and one on September 28. Widal's were taken in three of these cases early in the disease and all were negative.

Owing to the fact that my investigation was six weeks after the last case began to show symptoms, an academic discussion of the entire outbreak can only be made.

Investigation rapidly ruled out the vegetable supplies, as there was no supply common to any of the patients. Three of the cases obtained milk from the same dairy. Subsequent investigation of the dairy showed nothing that could be considered suspicious. On the other hand, all of the patients used city water.

In going over the mortality statistics of the California State Board of Health there had been reported in Santa Barbara seven deaths which could be connected with this outbreak of typhoid fever. Widal's from two of the cases were obtained in the course of the disease and both were negative. One

of the cases which died was diagnosed as typhoid fever, one as para-typhoid, and in the remaining five the cause of death was variously given; three of the cases evidently died of perforation of the intestines, and one after having considerable hemorrhage. As far as the investigation could show, three of these cases very probably came down with symptoms around September 20, one on September 18, two on September 21, and one on September 24.

Owing to the incompleteness of the records of the health office, the physicians not having reported their suspicious cases, and in some instances their cases of typhoid, the number of cases in this outbreak is a matter of conjecture. From interviews with the physicians of the City of Santa Barbara, I was forced to the conclusion that the number of cases in the entire outbreak was probably not more than twenty, but from the high mortality one would believe that the number was much greater. From the small number of cases and the high mortality, it could be considered that the infection was intensely accumulative and sudden with an abrupt disappearance. The idea of the abrupt disappearance of the infection is based upon the fact that no new cases were known to have come down later than September 28.

THE CITY WATER SUPPLY.

The City of Santa Barbara has three water supplies. One supply is from the old city tunnel in Cold Spring Canyon, which discharges into reservoirs Nos. 1 and 4 (on map) and from there into the city mains. Examination of samples from this supply showed the water to be safe for drinking purposes as far as bacteriological examination could show.

The second supply is obtained from a tunnel, seven feet high and five feet wide at the base, driven through the Coast Range Mountains into the drainage basin of the Santa Ynez River. The water supply comes entirely from this tunnel by infiltration, the dam for the control of the Santa Ynez River not having been completed as yet. The portal of the tunnel is approximately 1400 feet above sea level, and the supply is carried by gravity to reservoirs 2 and 3. Examination of samples taken at both portals of this tunnel, from the reservoirs, and from a tap within the city, showed this water to be safe for drinking purposes as far as bacteriological examination could show.

The third supply comes from the De La Guerra wells. At the De La Guerra pumping station there are seven cased wells from 200 to 700 feet deep. These discharge into a concrete and brick caisson, more or less porous, 25 feet in diameter and 30 feet deep, the top of which is six feet above sea level, and has a capacity of 110,160 gallons. From the caisson this water is pumped directly into the city mains, and supposedly fills during the night and is pumped out during the day. The wells are situated in a low space of ground, which is practically a swamp. There was water standing in this area when visited. The refuse dump of the City of Santa Barbara is about 75 feet directly across from these wells and fronting on the swamp. The surrounding region is populated and has only recently been sewered. Examination of samples

Note: If the publishing of this article would lend incentive to the now deplorably lax reporting of cases of communicable diseases, ample gratification would be felt by the California State Board of Health. It is only the prompt reporting of cases that makes it possible for the Health Officer to intelligently co-operate with attending physicians in controlling the various outbreaks of communicable diseases. The number of cases reported necessarily will determine whether the aid of the State Board of Health should be invoked for the prompt checking of epidemics and the tracing of sources of infection. It is such conditions described in this report which have sorely hampered public health work in California and have made imperative the employment of full-time health officers. Pecuniary disadvantage and political instability of the office of Health Officer, not peculiar to California, have made physicians reluctant to accept such positions and we have seen the advent of the non-medical full-time Health Officer. Public health is undoubtedly a medical science and so should always be regarded.

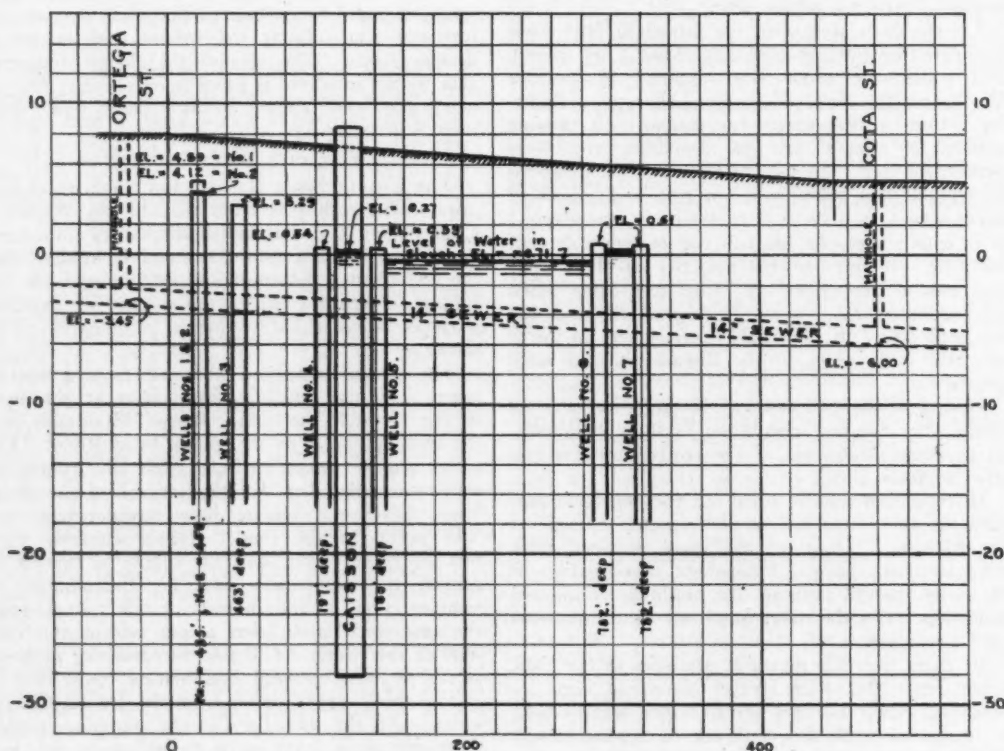
from each of the wells, done in duplicate, and at different times, showed all to be safe for drinking purposes as far as bacteriological examination could show, except Well No. 2, which pollution was confirmed in both of the examinations in 10 cc. Examination of the water in the caisson showed B coli in 10 cc. at the top, 10 cc. at the bottom, and 1 cc. in the middle, an amount of pollution which is at all times dangerous if the supply is used for drinking purposes.

DISCUSSION OF THE WATER SUPPLIES.

There have been for several months a number of workmen working in the main city tunnel of the Santa Barbara water supply. All precautions have been taken for the disposal of excrementitious material. These workmen have been changed at

frequent intervals, and none were reported ill as far as could be learned.

Owing to a shortage of the supply and the necessary cleaning of the different reservoirs, the two tunnel supplies of the City of Santa Barbara were completely eliminated and the supply from the De La Guerra wells and the water in the caisson was pumped directly into the city mains. The records of the office of the Santa Barbara Water Company showed that this water was pumped into the city mains from September 3 to 8, inclusive, and the records of the engineer of the pumping plant showed that this water was pumped into the main from September 3 to 5, inclusive. The supply of the De La Guerra wells had not been used since May, 1915, with the exception of the time recorded above. The capacity of the pumps is about 250,000 gallons a day (8 hours).



CROSS-SECTIONAL ELEVATION
SHOWING RELATION OF WELLS, CAISSON AND SEWER.
WATER WORKS SYSTEM - CITY OF SANTA BARBARA

SCALES: HORIZONTAL : 1 INCH = 50 FEET.
VERTICAL : 1 INCH = 5 FEET.

INVESTIGATIONS OF HYGIENIC LABORATORY, CALIFORNIA STATE BOARD OF HEALTH, DEC. 1915.

CHART I.

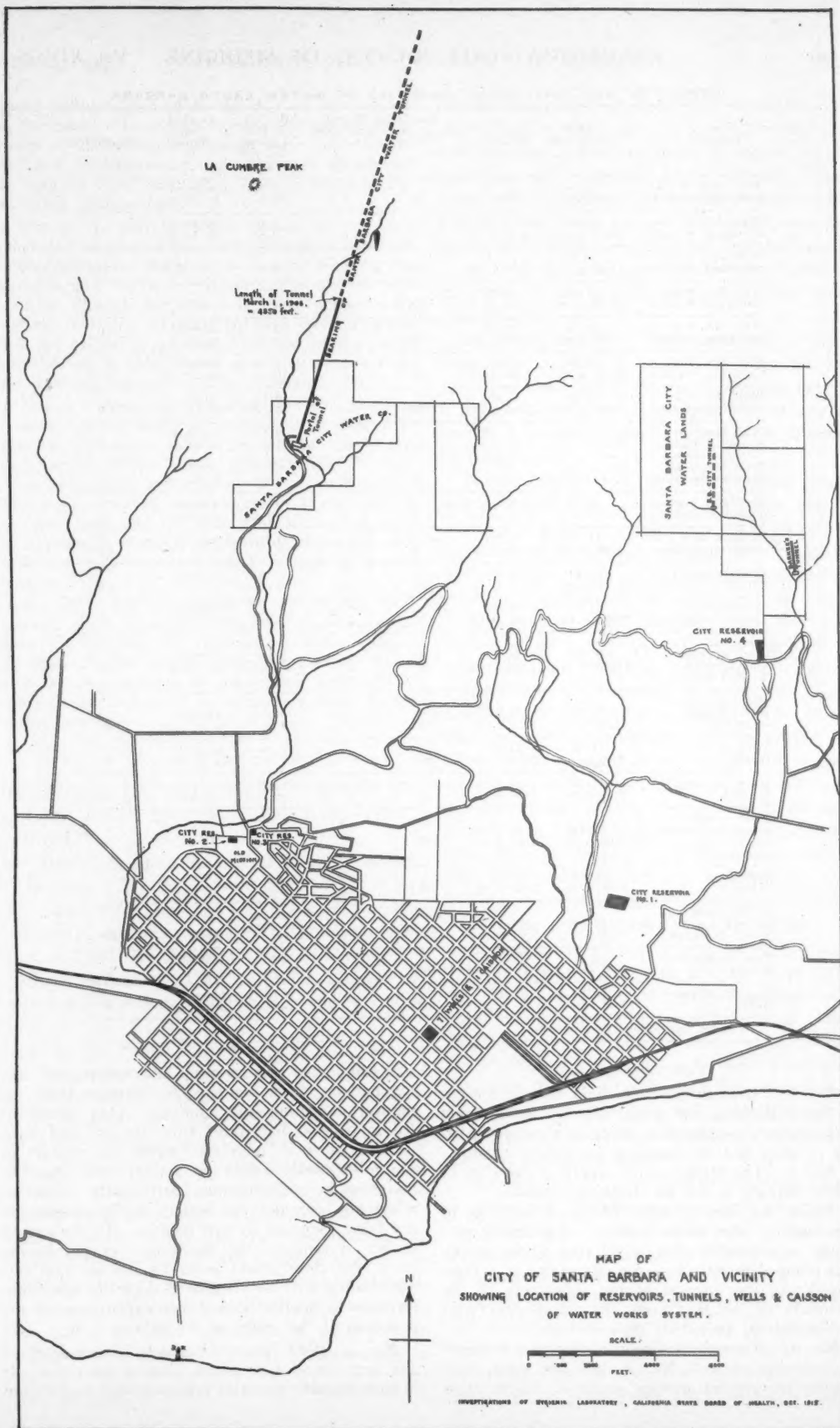


CHART II.

REPORT OF BACTERIOLOGICAL ANALYSES OF WATER, SANTA BARBARA.

Source	1915 Collected	Examined	Bacterial Count Lactose-litmus-agar Total	Acid	B. Coll Index Approx. No. per cc.	B. Coll Con- firmed in	Turbidity
Well No. 1 at pumping station	11/16 1:30 p. m.	11/17 5:00 p. m.	15	0	0 in 10 cc.	Absent in 10 cc.	0
Well No. 1 at pumping station	11/24 10:00 a. m.	11/26 4:00 p. m.	2	0	0 in 10 cc.	Absent in 10 cc.	0
Well No. 2 at pumping station	11/16 1:30 p. m.	11/17 5:00 p. m.	23	0	0.1	10 cc.	15*
Well No. 2 at pumping station	11/24 10:00 a. m.	11/26 4:00 p. m.	80	0	0.1	10 cc.	5
Well No. 3 at pumping station	11/16 1:45 p. m.	11/17 5:00 p. m.	80	0	0 in 10 cc.	Absent in 10 cc.	40*
Well No. 3 at pumping station	11/24 10:00 a. m.	11/26 4:00 p. m.	4	0	0 in 10 cc.	Absent in 10 cc.	40*
Well No. 4 at pumping station	11/16 1:30 p. m.	11/17 5:00 p. m.	1600	0	0 in 10 cc.	Absent in 10 cc.	0
Well No. 4 at pumping station	11/24 10:00 a. m.	11/26 4:00 p. m.	15	0	0 in 10 cc.	Absent in 10 cc.	0
Well No. 5 at pumping station	11/16 1:30 p. m.	11/17 5:00 p. m.	15	0	0 in 10 cc.	Absent in 10 cc.	0
Well No. 5 at pumping station	11/24 10:00 a. m.	11/26 4:00 p. m.	2	0	0 in 10 cc.	Absent in 10 cc.	0
Wells 6 and 7 at pumping station	11/16 1:30 p. m.	11/17 5:00 p. m.	3	0	0 in 10 cc.	Absent in 10 cc.	25*
Wells 6 and 7 at pumping station	11/24 10:00 a. m.	11/26 4:00 p. m.	25	0	0 in 10 cc.	Absent in 10 cc.	40*
Cold Spring Tunnel supply	11/16 10:30 a. m.	11/17 5:00 p. m.	12	0	0 in 10 cc.	Absent in 10 cc.	5
Reservoir (1) Cold Springs and Mission Tunnel Mixed	11/16 11:30 a. m.	11/17 5:00 p. m.	35	0	0 in 10 cc.	Absent in 10 cc.	5
Mission Tunnel water supply Reservoir (2)	11/15 3:30 p. m.	11/17 5:00 p. m.	260	0	0 in 10 cc.	Absent in 10 cc.	0
Tunnel, 30 ft. inside	11/15 4:00 p. m.	11/17 5:00 p. m.	300	0	0 in 10 cc.	Absent in 10 cc.	5
Main caisson, N. side	11/15 3:00 p. m.	11/17 5:00 p. m.	23	0	0.1 per cc.	10 cc.	0
Main caisson, center concen- tration of well supply	11/15 3:00 p. m.	11/17 5:00 p. m.	25	0	0.1 per cc.	10 cc.	0
Middle of caisson	11/16 5:00 p. m.	11/17 5:00 p. m.	48	0	1 per cc.	1 cc.	7
At discharge of caisson, 4 ft. water in caisson	11/16 4:40 p. m.	11/17 5:00 p. m.	200	0	0.1 per cc.	10 cc.	30*
Tap. McKinley School	11/13 10:00 a. m.	11/14 10:00 a. m.	700	0	0 in 10 cc.	Absent in 10 cc.	5
Tap. El Mirosol Hotel	11/13 10:00 a. m.	11/14 10:00 a. m.	400	0	0 in 10 cc.	Absent in 10 cc.	5

* High turbidities due to iron.

CONCLUSIONS.

No. 1. An outbreak of typhoid fever did occur in Santa Barbara, the actual number of cases not being exactly ascertainable owing to the non-reporting of cases and the resulting incomplete records.

No. 2. The tunnel water supply of the City of Santa Barbara is safe for drinking purposes.

Again, the most probable origin of infection of the cases is the water supply. Laboratory evidence is conclusive that a polluted water supply was pumped directly into the city mains at a time, considering the interval of the appearance of the symptoms of the first cases, not inconsistent with the incubation period of typhoid fever.

No. 3. Notwithstanding the laboratory evidence of pollution of well No. 2, 458 feet deep, it is possible to consider another source of danger from

the leaking of the caisson, and subsequent contamination of its contents by seepage from the natural dangerous surroundings. One would be led to believe that water from the polluted well, diluted, as it is, with the unpolluted product of the other wells would be apt to clear itself of pollution by sedimentation, particularly is this so when you consider the water in the caisson has not been disturbed in two months. In the examination of samples, the appearance of gas having been very slow would serve to indicate that one was dealing with an attenuated organism, which observation is applicable to either explanation of the pollution of the water in the caisson.

No. 4. Well No. 2, reputed to have a depth of 458 feet, on two occasions, showed pollution. It is quite possible that this pollution may enter from

upper polluted ground levels, due to perforations in the casing. In any event, whether the pollution enters at the bottom or through these upper levels, the well is condemned and should be abandoned as long as these and other tests corroborate the pollution demonstrated.

No. 5. In this particular caisson located in a populated section where the ground waters are undoubtedly contaminated and subject only to the variable and uncertain improvements due to percolation through soil, there is every opportunity for the entrance of such polluted ground water into the caisson in question. In view of the analysis, the use of this caisson as a source of storage for drinking water should be eliminated.

No. 6. Attention is called to map showing cross-section of wells and caisson and their relation to the swamp. Also the relation of the 14-inch sewer which passes approximately 50 feet away from wells and caisson. On account of difficulty of obtaining tight joints in sewers laid in swampy areas and the chance of settling of pipes it is probable that the contents of the sewer will leak out with resulting contamination of ground waters.

No. 7. The protection of the public from typhoid fever necessarily involves community action. Therefore, the checking of water supplies by bacteriological examinations and sanitary inspection is commensurate in importance with all the civic duties and must be accurately done at frequent intervals.

PERSONAL EXPERIENCES WITH ROENTGEN RAYS IN GYNECOLOGIC PRACTICE.*

By HENRY F. KREUTZMANN, M. D., San Francisco.

In 1914 I had the pleasure of reporting to you my observations on the use of Roentgen rays (X-rays) and mesothorium in gynecologic practice, as I had seen it during a visit to a number of German university clinics. Tonight I wish to record a few personal experiences in my own practice.

After my return from Europe, I had installed an X-ray apparatus, just as I had seen it employed at Heidelberg, Freiburg, etc., with all the accessories necessary for a scientific, accurate application of X-rays. It took some time before the apparatus arrived and before it was in working order, so the time of work is only a little over a year, and consequently the number of cases treated with X-rays is small. There are other reasons why the number of cases treated with X-rays is small. The medical fraternity of San Francisco and California is strongly inclined to operations and has educated the public to favor operations in preference to conservative treatment. There is some merit in

this position; if you operate upon a woman, you accomplish—in many cases—a speedy, certain cure, whereas conservative treatment is tedious in its application and uncertain in its outcome. Especially, when a woman comes some distance to her physician with some ailment, she wishes upon her return home to be freed from her troubles and not to be told to come back for further treatment; many are willing to take some risks under these circumstances.

On the other hand, X-ray treatment is not a panacea, a cure-all; it cannot and does not take the place of all other efficient treatments; but for a certain limited class of ailments it is of greatest benefit; a careful selection of cases must, however, be made.

In the first place, it is in the so-called metropathia hemorrhagica where its application may be called *the* treatment. Without any change in the size of the uterus, without any change in the condition of the endometrium, some women at the approach to, or at the time of the change of life, begin to bleed profusely, they have menorrhagia or metrorrhagia. Curettage of the uterus does not bring any relief, nor do styptica; hysterectomy is occasionally resorted to. These floodings are explained as occasioned by the climacteric changes in the ovaries, are considered due either to reflex action or to the influence of inner secretion of the ovaries. With the exclusion of the activity of the ovaries the uterine hemorrhages cease. The "X-ray castration" acts in these cases "*cito, certe et jucunde*," that is, a speedy and sure cure is obtained without any inconvenience.

Next to metropathia hemorrhagica has the fibromyoma uteri become the object of most frequent application of X-rays in gynecologic practice. Fibromyomata uteri as such are not an indication for intervention; it is the symptoms produced by them, notably hemorrhages and pressure, which call for help. Among the cases of fibromyoma uteri, where something has to be done, is one group to which X-rays must not be given, namely, very large tumors; rapidly growing tumors; tumors undergoing some change; pedunculated subserous tumors; submucous tumors.

Another group of cases, where operation means a grave risk, includes women with affections of the lungs; poor heart; bad kidneys; phlebectasias; profound anemia; diabetes; here X-rays are applied to greatest advantage.

There is still another group of cases where relief is wanted and where operative interference has become a very safe procedure; some operators have published series of 100 consecutive recoveries after operation for fibromyoma uteri. For this class of

* Read before the San Francisco County Medical Society, November 16, 1915.

cases, X-ray treatment is the treatment of choice; extraneous circumstances, such as fear of the knife, remote sojourn of the patient will decide what to do.

The number of cases treated by me so far is 12; cases of recent date are omitted; eight were cases of fibromyoma, four of metropathia hemorrhagica.

The first case turned out to be very instructive.

Mrs. W., 45 years old, had borne several children; had been operated upon by me 12 years ago, plastic vaginal work was done; had flowed much for about eight months, protracted menses with severe flow. At the same time she noticed a swelling of her face, hands and feet. Upon examination I found a spherical fibromyoma uteri reaching to half-way of umbilicus with small cervix; deep anemia; 40% hem. (Thalquist); condition of subacute nephritis. This seemed an ideal case for X-ray treatment: the hemorrhages were a strong indication for treatment; the condition of the kidneys presented some operative risk; so X-ray treatment was started at the same time as the treatment of the nephritis.

The result was that the manifestations of the nephritis disappeared, the hemorrhages ceased, menstruation became scanty; in the course of a few months the patient's general health improved remarkably; she stopped X-ray treatment, when at once she had again a most severe uterine hemorrhage. Operation was then decided upon. Opening the abdomen at the German Hospital, I found a uterus strongly resembling a pregnant or puerperal uterus; cutting it open after removal, hysterectomy, a submucous lympho-myoma of the size of a three months ovum was discovered. Recovery was uninterrupted, the patient's health restored permanently.

The case teaches us that errors of diagnosis are possible, and that no harm is done through the application of X-rays.

Two women with fibro-myomatous uteri, who had been suffering from severe hemorrhages, are still under observation, both much improved, a permanent cure: cessation of menses is soon to be expected.

In one case, tumor of the size of a double man's fist, with much pain in abdomen and protracted menses producing slight anemia, X-ray treatment relieved the pain and regulated the flow to normal; patient remained in satisfactory condition over six months, when the old symptoms returned and another treatment became necessary to regulate the flow.

In four cases a perfect result was obtained: the menses ceased, molimina appeared. I do not wish to say anything about the diminution of the tumor; unless a disappearance or very marked shrinkage of the tumor takes place, the matter is one of personal estimation, and in the cases treated by me so far the tumors have not disappeared.

Four cases of metropathia hemorrhagica were treated: two perfect results; in two cases the women were satisfied when the flow had become normal again.

I have reported these cases, not because further publication of cases is needed to prove the efficiency of the method; that fact is established beyond the shadow of a doubt; I rather wanted to base a few technical remarks on my report.

Roentgen rays are a powerful agent; we must know the doses that we administer. There are a

number of methods in use to measure X-rays; scientific workers are still engaged in improvement. The method that I saw employed everywhere in Germany, and that I have employed, is the Kienboeck-strip method.

It was found that to produce an epilation-dermatitis a definite, constant amount of X-rays is required and this fixed amount has been made the basis for different methods of measurement: Sabourand-Noiré's pastille, Holzkecht's and Kienboeck's photometry.

Kienboeck calls the erythemdosis 10x and divides the space from zero in 10 parts; these 10x correspond to 5 Holzkecht, to teinte B Sabouraud-Noiré.

Some gynecologic clinics in Germany measure every single time an application of X-rays is made; others put a strip in place every other time. I had to be economical with my Kienboeck strips, because on account of the war it is at present impossible to get these strips; but whenever I treat a patient, an occasional test is made with Kienboeck strips.

There is some disadvantage in this method because one cannot know the doses while the X-rays are applied; only after the treatment is finished the strips are developed and then the amount of the X-ray doses is found. But no damage is to be feared because, if we know the hardness of the tube, and if we keep the tube at a certain vacuum; with a fixed secondary milliamperage, with a certain time—the result will be the same approximately, and from previous experimentations we have learned how to avoid the danger-zone.

There are two methods employed in the treatment in gynecologic practice. One is the so-called Freiburg method; its object is to administer massive doses in order to obtain a maximum effect in as short a time as possible; hundreds of x are given at one treatment. Another method aims to give just enough to accomplish the purpose, 60-90-120 x are considered sufficient at one séance.

I started out to employ the Freiburg method, but I found through the Kienboeck strips that I could not reach the many x as I had seen and expected to reach. So I came to employ the second method, using 8 fields and giving 10-15 x surface doses, filtered, through each field.

The apparatus used is an induction coil; the type of tube the Muller water cooled rapid tube with either Osmose or Heinz Bauer air regenerator. The introduction of the Lilienfeld and Coolidge tube in Germany and America respectively is bound to revolutionize the deep X-ray therapy, as it is doing the diagnostic work. Its great advantages are: large amount of hard rays, stability, short duration of exposure, ease of manipulation.

I am experimenting now with a Coolidge tube, with the kind assistance of Mr. Geo. Bush, formerly of Walters Surgical Company. I have not yet fully succeeded in getting the high doses in the short time others are getting: Dr. Pfahler of Philadelphia and Dr. S. Stern of New York; the latter uses exactly the same outfit that I have; he writes me that he gets 5 x in one minute; he gives 20 x on each of 18 fields at each séance. The employment of the Coolidge tube in my work is bringing

me back gradually to the Freiburg method of giving large doses.

The success of Roentgen rays treatment in gynecology depends, in my opinion, mainly on two factors: 1, proper selection and careful supervision of the cases; 2, the technic of application. The possibility of an error of diagnosis must always be before our mind; it is absolutely necessary to follow up every case carefully, in order to avoid the unpleasant occurrence that a malignant complication should be overlooked; only a competent gynecologist is able to do that; co-operation with an X-ray operator, Roentgenologist, appears to me not desirable; X-ray treatment for diseases peculiar to women should be carried out by a physician well trained in diagnosing these affections. The technic must and can be learned.

It is most important to avoid burns. It appears to me that many people have been burned, and a deep-rooted distrust and dislike is encountered in very many persons against the curative use of X-rays. The introduction of the aluminum filter has overcome all dangers for the skin; other precautions have certainly to be employed, and above all the dose has to be measured; re-application to the same part of the skin has to be carefully considered, etc.

Before closing, I wish to add to the foregoing personal experiences a few remarks that are based merely on study of literature and previous clinical observations. I have, as stated, treated so far only patients with fibromyoma uteri and metropathia hemorrhagica. I believe that X-rays can also be successfully applied in hemorrhages of the menarche, that is, floodings at the start of menstrual life; very favorable reports have been made.

Furthermore, I consider it of the very greatest importance that every woman who has had an operation for a malignant growth should be submitted to a regular treatment with X-rays after operation; this rule may well be extended to all and every case of operation for a malignant growth, in man as well as in woman where feasible. No doubt X-rays are able to destroy cancer cells; the knife altogether too frequently fails to remove all the neoplastic cells, which form the basis for a relapse. Early, extensive operation is not sufficient; a systematic X-ray treatment after operation is essential to increase the number of permanent cures.

BOTULISM: ITS OCCURRENCE IN CALIFORNIA.*

By ERNEST C. DICKSON, M. D., San Francisco.

(From the Division of Medicine of the Stanford University Medical School.)

The occurrence of several cases of botulism within the past few years would seem to justify a brief description of the disease, as it has received but little mention in the American literature. The importance of the condition insofar as the Pacific Coast states are concerned has been emphasized by the fact that there have been recently several fatal cases in California and one in Oregon. In November, 1913, twelve persons were stricken in an

outbreak at Stanford University, one resulting fatally, and in reporting these cases Wilbur and Ophüls referred to two other outbreaks, one described by Sheppard in 1907 in which three persons died after eating canned pork and beans, and one described by Peck in 1910 in which twelve persons were affected and eleven died after eating canned pears. In both of these outbreaks the diagnosis of "ptomaine poisoning" was made, but in both the symptoms were identical with those of botulism, and it is highly probable that the bacillus botulinus was responsible for the poisoning. Since that time there has been an outbreak in Fallbrook, Cal., in which five persons died after eating canned apricots, and one in Boston with recovery in which the source of the poison was thought to be minced chicken.

The more recent cases have occurred within the past few months. In Hillsboro, Oregon, a woman and forty chickens died after eating canned corn, and in San Jose, Cal., a woman and eight chickens died after eating canned string beans. In both of these instances the patients died after an illness which in every way resembled botulism.

The most important fact concerning these cases is that, with two exceptions, all were produced by eating spoiled canned vegetables or fruits, and that in all of the latter the vegetables or fruits had been canned at home. Among the several hundred cases which have been described in the European countries the only outbreak in which the poisoning was traced to vegetables was that which occurred in Darmstadt in 1904 in which twenty-one persons became ill and eleven died after eating a bean salad which had been prepared in a cooking-school; and in this instance it was thought that there must have been some pork cooked with the beans because "it is not possible to cultivate botulinus in other than meat containing media" (Landman).

Subsequent to the outbreak at Stanford University, an investigation was undertaken in our laboratory to determine whether meat protein was necessary for the growth of the bac. botulinus and for the development of its toxin, and we found that in canned beans and canned peas in which the reaction had not been altered the toxin would develop in sufficient amount to produce the typical symptoms and to cause the death of animals which were inoculated. Leuchs reports that after the Darmstadt outbreak Gaffky had performed similar experiments, and that he had found that the toxin would develop in media prepared from beans, but that fact was not emphasized and has not been generally understood. The prevailing conception of the disease is that botulism is produced only by spoiled meats, usually pork, and that it is not produced by food that is of vegetable origin or in which the reaction is acid.

Botulism has been recognized in Europe for many years and there have been many cases reported in the European literature. It is a type of food poisoning which is characterized by peculiar disturbances of the central nervous system, and which in 1907 was found by van Ermengen to be due to the action of a toxin which is produced by the growth of an anerobic, spore-bearing bacillus

* For Bibliography see Botulism, an Experimental Study. Journ. Amer. Med. Assoc., 1915, LXV, 492.

to which he gave the name *bacillus botulinus*. The toxin may be separated from the bacilli by filtration of the medium through a Berkfeldt filter, and van Ermengen and others have shown that it is the toxin and not the bacilli which is responsible for the poisoning. The toxin develops only under anaerobic conditions and is soon destroyed if exposed to light or to air, or if heated to 80 degrees Cent. (176 Fahr.). Its presence in media or in food is indicated by a peculiar rancid odor which resembles that of butyric acid and which is not unlike that of rancid butter or certain kinds of cheese.

The bacillus is a strict anaerobe which is Gram positive and which readily forms spores. It has been found in nature but once, and then in the feces of hogs (Kempner and Pollak). It grows most readily at a temperature of between 18 and 30 degrees Cent. although it may form its toxin at temperatures outside of these limits. The toxin is much more virulent if the bacillus is grown in an alkaline medium and in the dark. The spores are slightly less resistant to heat than are those of many other bacilli, but they will withstand heating to .. degrees Cent. for .. minutes.

But little investigation of the histology of botulism has been made on the tissues of human victims of the disease. Following van Ermengen's investigations, he, Marienesco, Kempner and Pollak, Römer and Stein and other authors made histologic examination of the tissues of animals in which the condition had been induced, and they all agreed that the most important lesion was a peculiar disintegration of the Nissl granules of the ganglion cells of the motor portions of the cord and of the medulla, pons and peduncles. Van Ermengen also described diffuse hyperemia and hemorrhages in the abdominal and thoracic organs as well as in the meninges.

In the Stanford University fatal case Ophüls found a peculiar cellular thrombosis of the vessels of the meninges and of the brain, many of which were filled with thrombus in which were many leukocytes. There was also marked hyperemia of the abdominal viscera, and small thrombi were found in the vessels of the intestinal sub-mucosa and in those of the cortex of the ovaries. Similar thrombi, hyperemia and hemorrhages were found in the brain and in the abdominal and thoracic viscera of the animals which were inoculated in our series of experimental botulism as well as in the tissues of the chickens and in those of the woman who died in the recent outbreak in San Jose.

The symptomatology of botulism has been summarized by van Ermengen as a neuro-paralytic symptom-complex characterized by disturbances of secretion and symmetrical motor paralyzes. The first symptoms usually appear in from twelve to twenty-four hours after the ingestion of the infected food, but rarely they appear much earlier, in from one to two hours, and more often they are delayed, sometimes for as much as from three to nine days. There may be initial vomiting and diarrhea but usually the disease is characterized by the absence of acute gastro-intestinal disturbances,

and obstinate constipation is more common than is diarrhea. Disturbances of vision are often the first thing noticed by the patient. There may be an initial dimness of vision without apparent retinal changes, and usually this is soon followed by disturbance of accommodation and double vision. Ptosis, mydriasis, nystagmus and strabismus may occur, and there is frequently much vertigo. Disturbances of speech and of swallowing soon follow. The latter is partly due to the fact that there is a diminution of the flow of saliva which becomes thick and viscid, but is chiefly due to paralysis of the muscles of deglutition. There is progressive muscular weakness which may increase until there is complete paralysis of the skeletal muscles. Headache and disturbances of sensation and of mentality are rare. There is usually a diminution of urinary output, due partly to lessened secretion and partly to retention. The temperature, pulse and respiration remain practically normal. In the fatal cases the progress of the disease is usually rapid and death occurs in from two or three to ten or twelve days. Death usually results from respiratory or cardiac failure.

The mortality varies in different outbreaks, but averages about forty per cent. of the infected cases. If the progress of the intoxication ceases before any of the vital functions are disturbed the prognosis is fairly good, although recovery is very slow and convalescence is tedious. The disturbances of vision appear to be the last to clear up, and cases are recorded in which there were still some ocular disturbances several years after the infection. The complication most to be feared is insufflation pneumonia but decubitus ulcers are not uncommon.

Diagnosis may be difficult if a single case is seen because of the close resemblance to acute bulbar paralysis, acute poliomyelitis, cerebral syphilis or gelsemium and hyoscyamus poisoning; but where a number of persons who have partaken of a common article of food develop the symptoms there is little difficulty in recognizing the cause.

In the more severe cases treatment is of little benefit, but since recovery occurs in so large a percentage of cases, active therapeutic measures should always be undertaken as soon as possible. The stomach and the colon should be thoroughly washed out to remove any toxin that may remain, active purgation should be induced if possible, preferably with castor oil or epsom salts, and the patient should be supported as much as possible. Strychnin seems to be of especial benefit in improving the action of the paralyzed muscles, and other stimulants should be given as indicated. The patient should be kept absolutely quiet and plenty of water and simple food should be supplied. The danger of insufflation pneumonia should be kept in mind and it is therefore better to give the water by rectum or by hypodermoclysis instead of by mouth.

Specific serums have been prepared and the results of their use in laboratory experiments have been most satisfactory, but it is necessary that they be given as early as possible. There is apparently some difference in the specific action of the various strains of the bacillus so that polyvalent sera are

preferable. At the present time I know of no supply in this country but there is little doubt that they will be available as soon as the need is recognized.

The importance of recognizing that botulism occurs in this portion of the country and that the toxin may develop in vegetables and probably also in fruits, can scarcely be over-estimated. In a locality in which so many fruits and vegetables are canned at home each year, the possibility of contamination with the bac. botulinus as well as the terrible results which may follow if the contaminated food is eaten, should be known to all the people. There is no doubt that the methods of sterilization which are commonly employed by the housewife in canning are inadequate. The United States Agricultural Department has issued bulletins in which it is urged that fractional sterilization be employed in canning fruits and vegetables, but this advice is disregarded by the great majority of housewives and cooks. The frequency with which jars of fruit and vegetables "spoil" is positive evidence that all the bacteria and molds have not been destroyed in the canning process. All that is necessary to place many lives in imminent danger is that the food happen to become contaminated with the spores of the bac. botulinus and that the sterilization be insufficient. And it should be remembered that the bacillus has been found in pig's feces, and that vegetables which are grown on ground which has been fertilized with hog manure may be contaminated with the spores. The sealing of the cans and storing of them in a dark place establish ideal conditions for the formation of the toxin, especially in a climate where the temperature is rarely below that at which the bacillus thrives.

It is urgent that a campaign of education be commenced as soon as possible and that persons who practice home-canning of fruits and vegetables be instructed in the proper methods of sterilization. It is to the medical profession that we must look for the inauguration of such a campaign, and the object of presenting this report is to place the matter before the physicians of the State.

DIAGNOSIS OF MALARIA.*

By J. R. SNYDER, M. D., Sacramento.

In January of this year we reported before the Sacramento Society for Medical Improvement our experiences with the urobilin test in malaria.¹ Since that time we have been able to make a considerable addition to our total number of cases studied and it is our intention today to call your attention to the findings and also to the conclusions we have reached after our second series.

Plehn, working in German East Africa, reported in 1909 his original work made in the attempt to find some means of recognizing that a return to the original locality is frequently followed by a return of symptoms of malaria. No doubt had the original infection been entirely cured there would not be a return of symptoms, but how is one to know when a cure has been effected? If

quinine is given over a sufficiently long space of time the plasmodia will be killed. Estimates of from one to six months of quinine administration are given as the length of time necessary to accomplish this. Quinine taking is disagreeable, especially to those who have a special idiosyncrasy for it, and moreover they object to a prolonged administration when they see no effects of disease.

Given a case in which there are chills and fever, followed by sweating, and in which plasmodia can be found in the blood, the diagnosis is simple. But we rarely see a case that has not taken at least some quinine and after 24 to 48 hours of even moderate doses the plasmodia disappear from the circulation. The demonstration of plasmodia is very positive but sometimes it requires considerable laboratory skill and a great deal of work to identify them. Besides, a smear made during a chill or within eight hours after, is likely to appear free from the plasmodia. There are changes in the normal blood components which are suggestive, such as a relative increase of large mononuclear cells which persists for three to six weeks after the acute symptoms subside. Polychromatophilia may be present for weeks, but on the other hand may disappear early. These findings are only relative and require not only a painstaking search but considerable experience for correct interpretation.

Plehn found, and it is generally recognized, that there are inflammatory changes in the liver as well as in the spleen in malaria. Coplin² says, "in the acuter cases of malaria the hepatic changes resemble those seen in certain bacterial infections, the organ is swollen . . . and the biliary passages are not infrequently the seat of a well marked catarrhal cholangitis. In more chronic cases the pigmentation is marked, the fibrous tissue increased, and not infrequently a moderate degree of red atrophy is present." It is upon these inflammatory changes that the rationale of the urobilin test is based. Urobilin is formed in the intestine by the reduction of bilirubin through bacterial activity. The urobilin is absorbed and carried back to the liver. A normal liver sends it back to the intestine with the bile where it is excreted. A liver inflamed from whatever cause allows it to escape to the blood stream where a portion of it is excreted through the kidneys. Therefore, as we said before, the presence of urobilin in the urine is not specific for malaria but in our series of diagnoses of the liver cases in which the urobilin was found, was so evident that there was no trouble in differentiation. Also where we meet considerable blood tissue destruction, as in advanced pulmonary tuberculosis or carcinoma, and very occasionally in a normal subject, a faint positive may be present.

The technic of the test is quite simple. Add equal parts (2-3 cc.) of a saturated solution of zinc acetate in absolute alcohol to fresh urine. Shake. Then add two to three drops of a special Lugol's solution, made up as follows:

I.....1
KI.....2
Aqua.....50.

Shake and filter. A fluorescence in the filtrate indicates a positive reaction.

* Read before the California Northern District Medical Society at Sacramento, November 9th, 1915.

In a series of 120 cases of malaria who entered the Sacramento County Hospital we found the plasmodia in 38 cases while the urine gave 87 positives. The fluorescence was present in all cases with plasmodia except three; In these the plasmodia was found soon after the first chill and at that time the fluorescence was absent. Usually the fluorescence shows up a few days after the first chill. In 163 controls we found 8 positives, including 4 late cases of tuberculosis of the lungs, 3 cancer of the liver, showing marked cachexia and bile in the urine and one retrocecal abscess, following appendicitis, the liver forming part of the abscess wall.

The following tabulation makes clearer the results:

Total number of cases tested.....	238	
Total number of malarias (clinical)...	120	
Total number of malarias with pos.		
blood	38	32%
Total number of malarias with pos.		
urine	87	73%
Total number of controls.....	163	
Total number with pos. urine findings	8	7%

CONCLUSIONS:

The test for urobilin is simple and inexpensive. It can be done by inexperienced laboratory workers.

It is not specific for malaria.

It is not constant in early stage of acute malaria.

It was present in 73% of cases tested after the disease had existed six days.

It is of particular value in subacute and quiescent malaria.

1. The Urobilin Test in Malaria. California State Journal of Medicine, July, 1915.
2. Manual of Path., p. 176.

REPORT OF CASE.*

By PAUL S. CAMPICHE, M. D., San Francisco.

This man is 37 years old. Since the age of 14, he had in the front of the neck a small lump that was free and movable. Ten years later, i. e., in 1903, that nodule began to grow and had to be excised. It was operated on six times altogether, and it recurred soon after each operation. As you can see, the tumor which has returned is adherent to the sternum and to the other structures of the neck, and is evidently inoperable. I removed a piece of it from the center which I sent to Dr. Ophüls for examination, and he confirmed our clinical diagnosis of malignant adenoma or adenocarcinoma of the thyroid.

You also see here on the left parietal bone, the remnant of what has been a very large metastasis, the patient says as large as his two closed fists put together. This metastasis appeared in 1913, and was treated by injection of Coley's fluid by some other surgeon with a good result, and all that is left of it is a firm scar, something like an exostosis, on the skull, with no more evidence of malignancy. Dr. Lartigau, who examined this growth microscopically, found it to be an adenocarcinoma.

What I want to emphasize here to-night, is the peculiar nature of secondary growths in this type of tumor of the thyroid. As is well known, they have a predilection for the bones, especially the bones of the skull. Like the primary growth, the metas-

tasis runs a very slow course. It is not very malignant, and in this regard has been compared to myeloid sarcoma. Contrary to the definition that says that tumors are functionless, this type of metastasis (Kocher calls this growth metastatic colloid struma) produces a colloid substance, and cases are known where the cachexia strumipriva did not follow a total thyroidectomy as long as the metastasis was left alone.

The point of interest to which I call your attention to-night, lies in the fact that, in the whole field of surgery, this is the only instance where it is really worth while to attempt a radical operation on a metastasis with a fair chance of cure, due, in this case, to the relative malignancy and to the extremely long duration of primary adenocarcinoma of the thyroid. Several surgeons have put on record cases of such metastasis cured by a radical operation (Kraske, Riedel, Von Bruns).

We now treat this patient for the primary growth by injections of Coley's fluid and boiling water.

AN ARTHROPLASTY OF THE ELBOW.*

By REXWALD BROWN, M. D., F. A. C. S.,
Santa Barbara.

Case history: Miss H. C., aged thirty-seven years. Previous and personal history negative except typhoid fever at age of eighteen and a periostitis of left tibia following a bruise at age of thirty-three. The present trouble commenced in December, 1913. One day she stood waiting for a street car for one-half hour and became greatly chilled by a cold wind which blew from the ocean—"chilled to the bone," as she expressed it. Five days later she again had a chill immediately followed by severe pain over the left clavicle and throughout entire right arm. Within twenty-four hours a mass the size of a walnut developed over left clavicle and the right arm became swollen throughout, especially in elbow, less so in wrist and fingers. Temperature developed to a degree not recalled. The physician who was called said she had rheumatism and prescribed. The condition then drifted on for ten weeks, the swelling and pain, particularly about the elbow, being continuous. The swelling over clavicle disappeared in two weeks. The arm during this period was supported in full extension on pillows. At the end of ten weeks the pain and swelling subsided. The arm was then found to be locked in practically full extension.

Examination in March, 1915: There was no flexion or extension in right elbow joint. Pronation was normal and supination somewhat limited. X-ray photographs showed bony ankylosis between the articulating surfaces of the olecranon process and the humerus. Operation was performed April 1, 1915. Under ether there was no motion in joint. The technique will be described later. The pathology as found at the operation was that shown by the X-ray photograph—a bony ankylosis between the articulating surfaces of humerus and olecranon process. Results—Examination December 1, 1915. Miss H. C. has practically perfect use of arm—flexion is perfect—extension is not quite complete—pronation and supination as before operation.

This case presents material which could give body to at least three papers of some length. The error in the original diagnosis "rheumatism" prompts a paper on the inadequacy of the profession in the recognition of the differences in the types of joint involvements, so loosely, easily and carelessly grouped under the meaningless word just used. This inadequacy, however, let it be

* Read before the San Francisco County Medical Society, February 15, 1916.

* Read before the Southern California Medical Society, Los Angeles, Cal., December 1, 1915.

said, is growing less since the profession has devoted itself to joint lesions, little studied until recent years. Further, another paper would be timely on the pitiful failures in treatment in certain joint infections, notably those of the acute metastatic variety of which this case is an example. And finally, the literature is not burdened

instance, a metastatic arthritis indicating and justifying most energetic surgical measures.

Let us refer to the foregoing history: the patient stood in a cold wind and became thoroughly chilled; five days later she had a chill followed by temperature and severe pain over left clavicle and through entire right arm, which became



Fig. 1—Before operation—Degree of ankylosis.



Fig. 2—Elbow joint six months after operation.

with reports of surgical procedures for the relief of ankylosis of joints and, therefore, it seems permissible to report the method and results in this case.

But, this is not three papers—my intent in a short paper is to call attention to salient features from the three viewpoints referred to.

DIAGNOSIS.

The acute swelling of one or more joints with pain and temperature should not be settled at once by the doctor by calling it rheumatism, a shield for ignorance of the real situation, but usually hopelessly satisfying to the patient. There is an emphatic statement frequently heard by those who visit Dr. J. B. Murphy's clinic. It is "every type of non-traumatic joint infection is a metastatic manifestation of a primary infection in some other part of the body." Of course, the clinical picture may be that of acute rheumatic fever which there should be little difficulty in differentiating and treating. The gross disaster to the patient arises in calling some other form of joint involvement just rheumatism when it may be, for

greatly swollen—most marked about the elbow—in twenty-four hours; the pain was so great arm could not be touched or moved.

Similar cases seen by other observers have led them to press the conviction that there is a definite order of features in the clinical picture and that the order should be designated as classic of acute metastatic arthritis. The features are: (a) predisposing factors;—(1) chilling of body surface, (2) wetting of feet, (3) fatigue, (4) trauma, and (5) focus of infection elsewhere in body, sometimes not discoverable, and (b) the clinical phenomena—(1) chill or chilliness, (2) diffuse pains in muscles, bones and joints, usually of one extremity, (3) elevation of temperature, (4) extreme pain and effusion into one joint, rarely more than two, (5) loss of motion, and (6) tenderness.

Of these clinical phenomena the most important is the chill. It is of the gravest significance to the patient. Absent in the syndrome, the possibilities of joint restoration to normal, after the infective process has subsided, are excellent. But present, it almost invariably means ankylosis of

the joint, despite the hopefulness of the doctor in the efficacy of salicylates, heat and rest, "rheumatic remedies." The blood stream has carried to the joint micro-organisms of the most virulent type. Only through institution of immediate and energetic surgical treatment is there possibility of staying the ankylosing forces, and often this treatment fails.



Fig. 4.

TREATMENT OF THE INFECTION.

The objects to be achieved in treatment are: (a) relief of pain, (b) prevention of joint destruction with subsequent ankylosis and deformity, and (c) preservation of the joint usefulness.

Dr. J. B. Murphy has worked out certain procedures which to a great or less degree serve these aims. As the pain is due in part to tension within the joint from accumulation of fluid and infective products, aspiration will considerably lessen it. This must be done under general anesthesia and with the utmost care to avoid unnecessary trauma. The aspirating needle should be fairly large with a short bevel.

The fluid drawn off, the anesthesia continuing, the joint is injected through the same needle with a twenty-four-hour-old two per cent. solution of formalin in glycerine. The syringe used should be of the strong screw type as it is difficult to force the thick mixture into the joint. This solution accomplishes, by increasing leucocytosis and phagocytosis, a sterilization of the joint. The aspiration and injection may be done several times.

As the pain in the joint is also due to intra-articular pressure the result of the involuntary contractions of the muscles about the joint, and as

this pressure tends to induce ischemia of the parts and necrosis of the articulating surfaces, both conditions can be relieved by the use of extension on the limb below the joint. This extension, which must be applied until all inflammatory processes are stilled, perhaps several weeks in point of time, also corrects malpositions of the limb. Especially in the case of a leg, even though ankylosis occurs, if Buck's extension has been used the limb is straight and useful for walking.

ANKYLOSIS AT ELBOW.

Ankylosis of the elbow in any position is a serious lesion. The arm's function is markedly interfered with. Yet a position of flexion to ninety degrees or more is least disabling and during the period of infective activity the forearm should be maintained at such angle. Thus is insured, in case ankylosis occurs, certain definite usefulness. Do not permit, as happened in this case, the forearm's being completely extended on the arm, for the condition of ankylosis in this position creates an almost complete uselessness of the entire arm.

OPERATION—ELBOW ANKYLOSIS.

The operative steps in this case were patterned after the technic of Dr. J. B. Murphy, whose surgical achievements in ankylosis are more extensive than those of other operators. The technic in brief is as follows: Two lateral incisions, about three inches long, are made, one on either side of the olecranon. The ulnar nerve is located, freed from its bed, and retracted out of the field. The soft tissues over the former joint surface are carefully separated. A curved chisel is then driven in between the olecranon and humerus in line of former joint, first through the internal and then through the external incision, until the ankylosis gives way.

If there be ankylosis between the head of the radius and lesser sigmoid cavity, and between radius and humerus, these are also chiseled free. The olecranon fossa is next deepened and sufficient bone removed from humerus and radius to allow free extension and flexion. Be careful not to remove too much—this might lead to a flail joint. The anterior capsule is freely cut away.

Now one or two flaps are prepared as needed to cover the surfaces between the freshened bones. These flaps are fashioned with pedicles directed distally and consist of fascia and fat dissected from adjacent muscles. Large arms, as in the case of Miss H. C., with abundant soft tissues, give large flaps and insure best results in elbow arthroplasties.

The flap or flaps are drawn between the bones, and the edges sutured with chromic catgut to adjacent connective tissues about the condyles. The ulna is now placed in a new bed where it will not be compressed by scar tissue. The skin incisions are closed without drainage. The forearm is then flexed to a right angle and there held by light posterior cast or wire gauze cage for three or four weeks. After this time active and passive movements are begun.

The operative procedures require time and should not be hastened. Careful attention to details is essential to good results.

AUDITOR'S REPORT, 1915.

March 7, 1916.

Medical Society of the State of California,
San Francisco, Cal.

Gentlemen:—We have audited the accounts of the Medical Society of the State of California for the year 1915, and we annex hereto Analysis of Cash Receipts and Cash Disbursements for the year, showing totals by months.

In making the audit, we have accepted the amounts entered in the Cash Book as receipts as correct. The total amount entered therein we found had been duly deposited with the Union Trust Company of San Francisco.

The balance with the Union Trust Company of San Francisco at December 31, 1915, amounting to \$1,007.29, has been verified. The volume of bank transactions for the year was as follows:

January 1, 1915—Balance.....\$ 823.26
Deposited during 1915, as per statement
of Cash Receipts..... 24,631.81

\$25,455.07

Less checks drawn during 1915, as per
statement of Cash Disbursements.... 24,672.78

\$ 782.29

Add checks unpaid at December 31, 1915

No. 1578\$ 65.00
1617 60.00
1618 100.00
225.00

Balance with Union Trust Company of
San Francisco, December 31, 1915... \$1,007.29

The financial position of the Society, as at December 31, 1915, was as follows:

ASSETS.

Cash:

Union Trust Company of San
Francisco\$ 782.29
On hand..... 213.00
995.29

Accounts Receivable:

Journal Advertising, as per
statement annexed..... 960.86
Stock of paper in printer's hands,
as reported by J. H. Barry &
Co. 512.80
Furniture and fixtures at De-
cember 31, 1914.....\$ 750.00
Additions during 1915..... 222.60

\$972.60

Less Depreciation, 10% on
\$750.00 75.00
897.60

\$3,366.55

LIABILITIES.

Loan by Union Trust Company
of San Francisco..... \$1,500.00

Medical Defense:

W. W. Kaufman (½ retainer
for 1915).....\$ 500.00
W. W. Kaufman, Attorney
Fees 1,224.00
H. T. Morrow, Attorney
Fees 759.55
2,483.55

J. H. Barry & Co..... 351.00
Photo Engraving Co..... 11.65
Pacific Coast Paper Co..... 656.87
Yawman & Erbe..... 17.15
H. S. Crocker Co. (Steel Safe) 131.50
H. S. Crocker Co. (Addressing) 6.77
San Francisco County Medical
Society, January, 1916, rent
paid in Dec., 1915..... 15.00
1,189.94

\$5,173.49

Net Deficiency.....\$1,806.94

Accounts Receivable. The following accounts outstanding on December 31, 1915, have not been included in statement of Accounts Receivable, as it is understood that they are irrecoverable:

D. M. Collwin.....\$ 3.00
J. W. Nevins..... 3.00
Edw. Yale..... 6.00
Phil. Rohtjen..... 37.50
Yosemite Tax Co..... 25.00
\$74.50

SUMMARY OF CASH RECEIPTS.

Journal Advertising.....\$ 6,836.73
Journal Subscriptions..... 92.60
County Societies..... 15,342.00
Register Advertising..... 512.50
Register Sales..... 95.00
Rent Received..... 180.00
Sundry Receipts (including
loan of \$1,500.00 from
Union Trust Company in
October and \$49.57 paid
us by the Treasurer as in-
terest on our balances.... 1,585.98
\$24,644.81

SUMMARY OF CASH DISBURSEMENTS.

Journal Expense.....\$4,250.13
Register Expense..... 1,225.00
General Expense..... 1,772.44
Office Expense..... 935.68
Salaries 7,425.50
Medical Defense..... 9,064.03
\$24,672.78

(Signed) McLAREN, GOODE & Co.,
Certified Public Accountants.

PROGRAM

CALIFORNIA STATE MEDICAL SOCIETY
APRIL 18, 19, 20, 1916.

As the program is crowded, the papers will be limited absolutely to the time specified, otherwise there will be no time left for discussions.

Discussions are limited to **five minutes** for each member taking part.

Tuesday Morning.

General session, etc. (The report on Medical Education and Medical Licensure will be presented for general discussion.)

Tuesday Afternoon.

1. Symposium on "Exophthalmic Goitre."
 - a. "Unusual Clinical Aspects of Exophthalmic Goitre" (10 min.).
George D. Barnett, San Francisco.
 - b. "Symptomatology" (10 min.).
Henry Lissner, Los Angeles.
Discussion opened by F. Birtch, San Francisco.
 - c. "Surgery of Exophthalmic Goitre" (10 min.).
E. C. Moore, Los Angeles.
Discussion opened by Wallace I. Terry, San Francisco.
 - d. "Medical Treatment of Exophthalmic Goitre" (10 min.).
Donald Frick, Los Angeles.
Discussion opened by W. F. Cheney, San Francisco.
2. "The Gait in Nervous Diseases" (Illustrated by motion pictures). (15 min.)
Walter Schaller, San Francisco.

Wednesday Morning.

1. "Gall Bladder Disease. Six Cases" (15 min.).
Harold Brunn, San Francisco.
Discussion opened by Alanson Weeks, San Francisco.
2. "Selected Points in Gastrointestinal Diagnosis" (Lantern slides). (15 min.)
C. W. Lippman, San Francisco.
Discussion opened by Rexwald Brown, Santa Barbara.
3. "The Economic Importance of the Well Poised Person" (15 min.).
H. L. Langnecker, San Francisco.
Discussion opened by Leonard W. Ely and J. T. Watkins, San Francisco.
4. "American Red Cross Work in Belgrade" (20 min.).
Shadworth Beasley, San Francisco.
Discussion to be opened by H. A. Rosenkranz, Los Angeles.
5. "Operative Treatment of Proclivencia" (15 min.).
F. W. Lynch, San Francisco.
Discussion to be opened by A. B. Spalding and C. J. Teass, San Francisco.

Wednesday Afternoon.

Sessions of G. U. and Eye, Ear, Nose and Throat and the Tuberculosis Society.

Thursday Morning.

1. "Multiple Primary Tumors with Case Reports" (10 min.).
James C. Blair, San Jose.
Discussion opened by Stanley Stillman, San Francisco.
2. "Apocodeine—A New Laxative with Particular Advantages" (10 min.).
W. C. Alvarez, San Francisco.
3. "Trifacial Neuralgia" (10 min.).
J. M. Wolfsohn, San Francisco.
Discussion opened by T. G. Inman, San Francisco.
4. "Blood Sugar Tolerance" (10 min.).
R. S. Cummings and George Piness, Los Angeles.

5. "Treatment of Syphilis" (20 min.).
Granville MacGowan, Los Angeles.
Discussion opened by A. B. Grosse, San Francisco.
6. "Mercurialized Serum Injections in Syphilitic Nervous Diseases" (10 min.).
Henry Mehrtens, San Francisco.
Discussion opened by Thomas C. Little, San Diego.

Thursday Afternoon.

1. "Leucopenia—Its Significance" (10 min.).
Joseph H. Catton, San Francisco.
Discussion opened by George E. Ebright, San Francisco.
2. "Symposium on Focal Infections."
 - a. "Focal Infections in General" (10 min.).
William D. Whitten, San Diego.
 - b. "Endocarditis in Childhood" (10 min.).
E. C. Fleischner, San Francisco.
 - c. "Intestinal Involvement" (10 min.).
Fred Gundrum, Sacramento.
 - d. "Focal Infection from a Urological Standpoint" (10 min.).
Ralph Williams, Los Angeles.
 - e. "Mouth" (10 min.).
James G. Sharp, San Francisco.
 - f. "Tonsils" (10 min.).
John MacKenzie Brown, Los Angeles.

General discussion on "Focal Infections" to be opened by Emil Schmoll, San Francisco.

GENITRO-URINARY SECTION OF THE
STATE MEDICAL SOCIETY AND WEST-
ERN BRANCH OF THE AMERICAN
UROLOGICAL ASSOCIATION.

Wednesday Morning—9:30.

1. "Fibrosis of the Bladder Neck as a Cause of Urinary Frequency."
H. Welland Howard
2. "Ureteral Fistulae."
Charles D. Lockwood.
3. "Radiographic Diagnosis of Hydronephrosis" (with lantern slide demonstrations).
Martin Krotoszyner.
4. "Symptoms, Diagnosis and Pathological Anatomy of Renal Tuberculosis."
Leon J. Roth.
5. "A Report of Fifty Cases of Tuberculosis of the Kidney and Bladder Clinically Cured Without Operation."
F. S. Dillingham.
6. "The Technic of Nephrectomy for Tuberculous Kidney."
H. A. Rosenkranz.

GENERAL SESSION.

Wednesday Afternoon—1:30.

Symposium on Tumors of the Kidney.

1. Tumors of the Kidney.
Albert Soiland.
Discussion opened by Howard Ruggles.
2. Tumors of the Kidney.
Langley Porter.
Discussion opened by P. V. K. Johnson.
3. Tumors of the Kidney.
Herbert C. Moffitt.
Discussion opened by Joseph M. King.
4. Tumors of the Kidney.
Stanley Stillman.
5. Tumors of the Kidney.
Discussion opened by Guy Cochran.
6. "Modern Diagnosis and Treatment of Urinary Lithiasis."
Frank Hinman.
Discussion opened by R. L. Rigdon.

William E. Stevens.

Thursday Morning—9:30.

1. "A Preliminary Report on the Simultaneous Use of Indigo-Carmine and Phenolsulphonephthalein Tests in Surgical Diseases of the Kidney."

Anders Peterson.

2. "The Diagnosis and Treatment of Contracture of Vesical Neck."

Arthur B. Cecil.

3. "Prostatectomy—a Clinical Study of Fifty Cases with Particular Reference to Post-operative Treatment."

W. B. Dakin.

4. "The Value of Fuchsin in Urology."

Victor G. Vecki.

5. "A Method of Re-establishing the Patency of the Ureter in Pyonephrosis."

M. Molony.

EYE, EAR, NOSE AND THROAT SECTION.

As the program is crowded the papers will be limited to ten minutes, otherwise there will be no time left for discussions. Discussions are limited to five minutes for each member taking part.

Tuesday Afternoon.

1. "Effective Treatment of Trachoma."

Dr. A. S. Green, San Francisco.
Discussion opened by Dr. Hugo A. Kiefer, Los Angeles.

2. "The Modern Treatment of Iritis."

Dr. M. W. Fredrick, San Francisco.
Discussion opened by Dr. Alex. Galbraith, Oakland.

3. "The Bacteriology of Sinus Disease."

Dr. John J. Kyle, Los Angeles.
Discussion opened by Dr. Adolph B. Baer, San Francisco.

4. "Additional Notes on the Etiology of Ozena."

Dr. Henry Horn, San Francisco.
Discussion opened by Dr. E. A. Victors, San Francisco.

Wednesday Morning

1. "The Surgical Treatment of Squint."

Dr. Vard H. Hulen, San Francisco.
Discussion opened by Dr. Thos. J. McCoy, Los Angeles.

2. "My Non-Suture Method of Ocular Tendon Shortening."

Dr. Roderick O'Connor, Oakland.
Discussion opened by Dr. E. W. Alexander, San Francisco.

3. "Eye Symptoms of Tabes."

Dr. Wm. F. Blake, San Francisco.
Discussion opened by Dr. M. W. Fredrick, San Francisco.

4. "Pure Carbolic Treatment of Selected Cases of Chronic Suppurative Aural Inflammation."

Dr. G. W. Walker, Stockton.
Discussion opened by Dr. Dwight H. Trowbridge, Fresno.

5. "The Sluder Method of Tonsillectomy."

Dr. F. M. Shook, Oakland.

Wednesday Afternoon.

Symposium on Meningitis.

1. "Meningitis of Nasal Origin."

Dr. Havard Y. McNaught, San Francisco.
Discussion opened by Dr. P. A. Jordan, San Jose.

2. "Meningitis of Otic Origin."

Dr. E. C. Sewall, San Francisco.
Discussion opened by Dr. J. Mackenzie Brown, Los Angeles.

3. "Tubercular Meningitis."

Dr. Wm. B. Lucas, San Francisco.
Discussion opened by Dr. H. S. Moore, San Francisco.

4. "Eye Findings in Meningitis."

Dr. W. Scott Franklin, San Francisco.

5. "Prospects of Surgical Treatment of Meningitis."

Dr. H. C. Naffziger, San Francisco.
Discussion opened by Dr. S. Hyman, San Francisco.

Thursday Morning.

1. "Present Legislation and Proposed Legislation for the Prevention of Blindness."

Dr. Edw. F. Glaser, San Francisco.

Discussion opened by Dr. Wm. Ellery Briggs, Sacramento.

2. "Glaucoma, a Critical Review of Present Methods of Treatment."

Dr. Hans Barkan, San Francisco.

Discussion opened by Dr. W. Scott Franklin, San Francisco.

3. "The Removal of Foreign Bodies From the Bronchi and Oesophagus."

Dr. H. B. Graham, San Francisco.

Discussion opened by Dr. Geo. W. McCoy, Los Angeles.

4. "Infections of the Bloodstream."

Dr. Cullen F. Welty, San Francisco.

Discussion opened by Dr. Benj. F. Church, Redlands.

PROGRAM.

ANNUAL MEETING OF THE CALIFORNIA STATE MEDICAL SOCIETY

and the

CALIFORNIA ASSOCIATION FOR THE STUDY AND PREVENTION OF TUBERCULOSIS.

Fresno, Cal., April 19, 1916.

Forenoon—9:00.

Reports from Clinics.

Reports of Officers:

Address by President, Dr. C. C. Browning, Los Angeles.
Report, Executive Secretary, Miss E. L. M. Tate, Sacramento.

Report, Secretary, Dr. George E. Tucker, Riverside.

Reports of Local Associations.

Use of Vaccine in Clinics, Dr. Leon Shulman, Los Angeles.

Discussion led by Dr. F. M. Pottenger, Monrovia.

Open-Air Schools, Edward Hyatt, State Superintendent of Public Instruction, Sacramento.

Health Work Among the Mexicans in Los Angeles, Dr. J. L. Pomeroy, Los Angeles.

Election of Officers.

Afternoon—2:00.

Tuberculosis in Children, Dr. Langley Porter, San Francisco.

Discussion led by Drs. Mace and Lucas, San Francisco.

Some Phases of Dentistry and Tuberculosis, Dr. Julio Endleman, Los Angeles.

Discussion led by Dr. J. W. Reeves, Los Angeles.

Clinical Observations on 100 Cases of Artificial Pneumothorax, Dr. Ralph Matson, Portland, Oregon.

Discussion led by Dr. E. von Adelung, Oakland.

The Psychotherapy of Pulmonary Tuberculosis, Dr. Henry M. Neale, Upper Lehigh, Pa.

Discussion led by Dr. Ross Moore, Los Angeles.

Differential Diagnosis of Abdominal Tuberculosis, Dr. G. E. Ebright, San Francisco.

Discussion led by ———

Bone Transplantation in Vertebral Tuberculosis. Illustrated by lantern slides, Dr. Ellis Jones, Los Angeles.

Discussion led by Dr. Geo. McChesney, San Francisco.

Present Status of the Treatment of Tuberculosis of the Bone, Dr. Arthur L. Fisher, San Francisco.

Discussion led by Dr. James Watkins, San Francisco.

MEDICAL PRACTICE ACTS OF CALIFORNIA

TABLE FOR CONSIDERATION OF RECIPROCITY APPLICATIONS FROM OTHER STATES

	1 MEDICINE & SURGERY	2 OSTEOPATHY	3 DRUGLESS	4 CHIROPODY
Prior to August 1, 1901	Oral. See Chapter 354, Statutes 1913	Practice not legalized	Practice not legalized	Practice not legalized
A	1a	2a	3a	4a
Subsequent to August 1, 1901, and prior to March 4, 1907	Direct reciprocity on equal standards; otherwise oral examination	Direct reciprocity on equal standards	Practice not legalized as "Drugless"	Practice not legalized
B	1b	2b	3b	4b
Subsequent to March 4, 1907, and prior to August 10, 1913	Direct reciprocity on equal standards; otherwise written examination	Direct reciprocity on equal standards	Practice not legalized as "Drugless"	Practice not legalized
C	1c	2c	3c	4c
Subsequent to August 10, 1913, and prior to August 8, 1915	Direct reciprocity on equal standards; otherwise written examination	Physician and surgeon or druggist practitioner certificate — depending on standard of state and qualification of applicant	Direct reciprocity on equal standards	Practice not legalized
D	1d	2d	3d	4d
Subsequent to August 8, 1915	Direct reciprocity on equal standards; otherwise written examination	Physician and surgeon or druggist practitioner certificate — depending on standard of state and qualification of applicant	Direct reciprocity on equal standards; otherwise by written examination	Direct reciprocity on equal standards; otherwise by written examination
E	1e	2e	3e	4e

1. A. See chapter 354, Statutes of 1913 } The Board has adopted the policy of granting a written examination
 B. See chapter 354, Statutes of 1913 } to licentiates from other states whenever the California Board deter-
 C. See chapter 354, Statutes of 1913 } mines that the standard maintained by such state at the date of issu-
 D. See chapter 354, Statutes of 1913 } ance of the certificate used as the basis of the application, was lower
 E. See chapter 105, Statutes of 1915 } than that maintained by the California law on the same date.
2. A. Certificates to practice Osteopathy were not issued in California prior to March 9, 1901.
 B. See chapter 105, Statutes 1915.
 C. Applicants presenting Osteopathic certificates issued between March 4, 1907, and August 10, 1913, by a state maintaining a lower standard than California, may take the written examination for a drugless practitioner certificate provided such applicant fulfils the provisions of sections 9 and 10, chapter 354, Statutes of 1913, as amended by chapter 105 of the Statutes of 1915.
 D. See chapter 354, Statutes of 1913.
 E. Certificates to practice Osteopathy have not been issued in California since August 10, 1913—repeal of chapter 212, Statutes 1907, and amendments thereto. See chapter 354, Statutes 1913. Consequently, Osteopaths must qualify for a physicians and surgeons or drugless practitioner certificate in accordance with the credentials submitted from such other state and the Board's classification thereof.
3. A. Not recognized.
 B. Not recognized.
 C. Not recognized.
 D. See chapter 354, Statutes 1913. For reciprocity exactions see chapter 105, Statutes 1915.
 E. Must meet the requirements of sections 9 and 10, Statutes 1915, for drugless practitioner certificate.
4. A-B-C-D. See chapter 105, Statutes 1915.
 E. See chapter 105, Statutes 1915. An applicant practicing in California for one (1) year prior to July 1, 1915, who files an application within 90 days subsequent to August 8, 1915, and makes proof of competency, good moral character, etc., may be granted a certificate on credentials (registration).

LEGISLATIVE ENACTMENTS IN CALIFORNIA PERTAINING TO THE HEALING ART

	Statutes	Chapter	Page	Approved	In effect
Medicine and Surgery	1876	518	792	April 3, '76	April 3, '76
Medicine and Surgery	1878	576	918	April 3, '78	April 3, '78
Medicine and Surgery	1901	51	56	Feb. 27, '01	Aug. 1, '01
Osteopathy	1901	99	113	March 9, '01	March 9, '01
Medicine and Surgery and Osteopathy	1907	212	252	March 14, '07	May 1, '07
Naturopathy	1909	276	418	March 19, '09	March 19, '09
Medicine and Surgery and Osteopathy	1911	745	1449	May 1, '11	May 1, '11
Medicine and Surgery and Osteopathy	1911	740	1437	May 1, '11	July 1, '11
Medicine and Surgery and Drugless	1913	354	722	June 2, '13	Aug. 10, '13
Medicine and Surgery Drugless and Chiroprody	1915	105	184	April 24, '15	Aug. 8, '15

THE URGENT NEED FOR A MORE ADEQUATE TREATMENT OF SYPHILIS.*

By ALFRED R. ROGERS, M. D., Los Angeles.

At the 1914 meeting of the A. M. A., during the symposium on syphilis several of the participants, men prominent in the urological branch of the medical profession made the rather startling assertion that 99 per cent. of the practitioners of medicine in the United States did not know how to properly treat syphilis. Of course such a broad statement is not justified by the facts, for the knowledge of the therapy of this disease is not by any means monopolized by one per cent. of the profession. Furthermore, the statement was inaccurate, perhaps, in that it implied that the other one per cent did know how. If the gentlemen had said that 100 per cent. of the medical profession in the civilized world, including themselves, did not know how to treat syphilis, their assertion would have been no less startling; but I am convinced that it would have been nearer the whole truth.

We know a great deal about the diagnosis and treatment of this disease which lays its blight annually upon thousands of men, women and children. We know much more to-day than we did yesterday, and will know more to-morrow than we do to-day, but even with the remarkable advances that have been made in the last decade in methods of diagnosis and the discovery of new remedies which, if they do not cure, certainly perform miracles in causing the disappearance of symptoms, can any man say that he positively knows the proper, most efficient and adequate method of applying these remedies to the end that syphilis be permanently cured in the shortest possible time?

By perusing the current voluminous literature on this subject, we learn that there are several schools of treatment, each having among its adherents men of unquestionable ability as syphilologists, and this fact is a frank admission on our part that we are still feeling our way—not only as to the best remedy to apply, but particularly as to the best method and dosage to be used in applying them, and there is still a wide variance of opinion as to the period which must elapse before a permanent cure is effected. For example, many eminent physicians, particularly in Germany, use the arsenic preparations to the exclusion of all other drugs. There are a few who, having tried the salvarsan treatment have discarded it and pin their faith entirely to the tried and true mercurials. For the nonce the most popular treatment is a combination of mercury and arsenic, but so numerous and varied are the methods of combining them, both as to proportions and dosage, and so numerous and varied are the results published that surely it would be presumption for any man to say that his was the last word that could be said on this subject. It is with no pretense of saying the last word, but rather with an effort to bring a semblance of order

out of more or less chaos that this paper is presented.

We know much about syphilis; we know the causative agent; we know its varied and complicated pathology; we know how to recognize most of its clinical symptoms and to differentiate them; we know how to recognize and interpret the symptom known as the Wassermann reaction and lately have learned that too much dependence cannot be placed upon that symptom alone. And we know that with the remedies at our disposal, imperfect though the future may demonstrate them to be, syphilis is a curable disease. With all this knowledge at hand that so large a percentage of luetics are not cured is probably as great a stigma as rests upon the medical profession. If syphilis is curable, why are insane asylums filled as they are to-day with the victims of cerebral syphilis and why are thousands dying annually from the late destructive lesions of the disease? It is true that it is extremely difficult to convince the ordinary luetic that it is necessary to persevere in giving him poisonous drugs after all objective manifestations of the disease are absent. To him this savors too much of commercializing his affliction. This is our best alibi in defending ourselves against the charge of responsibility for the great prevalence of uncured syphilis. The widespread publicity given to salvarsan by the lay press whereby the public was led to believe that at last a remedy had been discovered which at one fell swoop would thoroughly eradicate syphilis from the infected organism and the manner in which unscrupulous men masquerading under the name of "physicians" fostered and are still fostering that delusion can have but one result. The number of men and women, who have taken one or more salvarsan injections and gone forth secure in the belief that they are permanently cured is legion. Many of them will not believe when told that more recent investigations have proven their treatment to have been inadequate. It cannot be doubted then that because of such pernicious exploitation of this splendid addition to our armamentarium the next generation will witness such a crop of cerebral, spinal and visceral luetics as was never known before. But even with these alibis the honest, reputable, conscientious physician is not blameless. It is a far cry from the charlatan who assures his victim that if he can mortgage the little vine-clad cottage for \$100, or \$500, so that he can have one or two salvarsan treatments that he will be permanently cured, to the physician who prescribes proto iodid pills, alternating with small doses of K. I., and advises the patient that he had better keep it up for a year or two, to make sure of a complete cure, but the net result is the same. Neither method is efficient or adequate, as has been proven conclusively by the experience of any physician who has watched the cases through to the end.

Syphilis when contracted by the ordinary man or woman, or when inherited from syphilitic parents, is more than a disease; it is a tragedy. Whether the infection comes innocently or following an infraction of the moral law, the sense of shame and humiliation, of the loathsomeness of his condition, of the utter uselessness of any effort to

* Read before the Los Angeles County Medical Society, November 4, 1915.

be as other men, makes the suffering mostly mental, as physical pain is, except in spinal involvement, generally entirely absent. It is a serious affair, both to themselves and to those with whom they associate, but it has this one saving grace: Acquired syphilis unless neglected is neither fatal nor does it seriously interfere with its victim's usual activities. In an economic sense it is bad enough, but it is much less serious than are many less dreaded afflictions to which humanity is heir. One of its greatest horrors to the intelligent lay mind is the feeling that he almost never knows when he is cured. It is the hope of all and the belief of many that out of all the exhaustive studies that are being made, before long some means will be devised whereby a test can be applied that will demonstrate once and for all that a permanent cure has been effected, but for the present there are but two ways by which we may be sure of the success or failure of our treatment. One is to watchfully wait out the years in the hope that our medication has been permanently successful; the other is to have the patient become reinfected. Neither method is satisfactory from the standpoint of patient or medical attendant, but it is all we have on which to base a statement of complete cure.

What can we as physicians do to force these patients, who are so numerous and who constitute so great a menace to the public health and to the unborn generations, to continue their treatment? We might with reason and consistency advocate a statute, providing that they must be registered at some place inaccessible to the public and that they be in the position of paroled prisoners, obliged to report to the health authorities once a year or oftener and show that they have been properly treated or at least under competent observation. There are many laws in existence now much more paternalistic and which to a much greater extent interfere with personal liberty than would this, but the attitude of the lay mind on the subject of government regulation of venereal disease is such that this generation at least cannot hope for such legislation. It is up to us then to bring to bear upon these patients every influence at our command to protect posterity and to insure the victims themselves against the terrible end results of their own indifference and neglect. In our efforts in this direction lie the urgent need of a more adequate treatment of syphilis.

The first thing necessary is to thoroughly convince the patient of the seriousness of his condition and not wait for him to be convinced by the onset of visceral lesions. A confidential talk setting forth the gravity of the disease and the probable course of treatment necessary for permanent relief will do much, but I find it more convincing to give to each patient, both in private and dispensary practice, a printed sheet which I word as follows:

"You are afflicted with syphilis. The disease now shows only externally, but it is in your blood and will be in your blood for some time after all external visible symptoms are gone. You cannot

be cured in one week, one month or one year, nor is there any medicine known, one or two doses of which will cure you. The disease can be cured completely, but only if you place yourself under the care of a competent, conscientious physician and follow his directions to the smallest letter. Make up your mind to be under a physician's observation for not less than five years. This does not mean that you will be under treatment for five years, perhaps not one-half that time, perhaps none after the first two years, but keep under the physician's observation and let him decide whether or not you need treatment. Do not allow yourself to be treated or advised by advertising doctors or quacks. They are rarely competent and are never honest. The disease is dangerous to your health only if you neglect it. If properly cared for, neither the disease nor the treatment instituted for its relief will cause you any serious inconvenience or detention from work. If neglected, however, it will in later years attack your vital organs, heart, arteries, kidneys, spinal cord and brain, rendering you a helpless invalid or a victim of insanity. To insure you against such a fate you will have to be treated at times when there are no visible evidences of the disease and when it seems to you unnecessary and foolish. You must not marry until four years have elapsed after the first appearance of the disease. If you do, you will endanger your wife and your offspring. After that, if you have been properly treated, you can marry and beget children with safety to both. If you have occasion to transfer your case from the care of one physician to another, be sure to have the doctor who has treated you give you a complete history of your case since he took charge of it; the symptoms including result of blood test, treatment and results of treatment on the symptoms. Present this record to your new physician. Your infection can be transmitted to others through other means than sexual intercourse. Therefore, for the protection of the public, refrain from kissing anybody and do not use public drinking vessels, cigar clippers, towels, etc., from which others might become infected. By paying due and strict attention to these instructions you can not only protect others with whom you are unavoidably associated, but you can conceal the fact that you have this disease and can assure yourself not only of freedom from the evil effects of the early symptoms, but of future health and usefulness."

On the reverse side of this page of instructions can be printed blanks to be filled in briefly by the attending physician, showing the course of the disease with all its manifestations; the treatment instituted, with dates and dosage. This data to be taken from the records which all painstaking physicians keep. The value of such a record to the doctor who falls heir to the case in its later years cannot be overestimated.

I look upon a luetic patient as in some sense a ward of mine, for whom, to a certain extent, I am responsible. If he does not appear in due time for treatment or examination, I notify him of that fact by mail and he usually comes, but always with the story that inasmuch as he had been entirely free

from symptoms, he considered further treatment unnecessary. Right here and now I wish to enter my protest against the symptomatic treatment of syphilis. The physician who treats lues only when there are clinical or serological evidences present is as much at fault as he who administers copious doses of morphia and thereby masks the symptoms of pneumonia or appendicitis. In either case he is deceiving both himself and his patient into a false sense of security.

Having if possible gotten the patient under control and presuming that he will entrust his case to you for at least four or five years, what constitutes an adequate therapy of syphilis? It is unfortunate that the treatment is not better standardized, that there is still some disagreement among our best syphilographers, but yet out of all the heterogeneous literature of 1915 there is, if we eliminate the extravagant claims of a few ultra-enthusiasts, a fairly unanimous opinion upon this subject. Undoubtedly there are well authenticated instances of cures following a few months of intensive treatment, but in reading of these cases and knowing the possibility of error in diagnosis and the still greater possibility that sufficient time has not elapsed since the so-called cure to either affirm or to deny the statement, I think it well to take all these reports with "a grain of salt." Knowing that the spirochetes even in the earliest stages of the infection have permeated every part of the body reached by the blood stream and that to eradicate them requires not only intensive but persistent treatment, and that neglecting to keep the system saturated with some spirocheticide for a prolonged period will almost inevitably result in relapses, our course is fairly plain. I believe that the dangers of over-dosage and over-saturation with mercury have been greatly overestimated. Our best known authors upon the subject seem to be afraid that somebody will be salivated. The maximum dosage of the different mercurial salts is usually given at what is actually the minimum dosage and far smaller than actual practice teaches us is correct. For example, we are advised to give succinimide of mercury intramuscularly in doses of from one-fifth to four-fifths grain, whereas one and one-fourth grains has been given intravenously with perfect safety and gratifying results. The salicylate is mentioned as the insoluble salt of choice with a maximum dosage of one and one-half grains. I have a patient weighing 145 pounds with late syphilis who has had three grains of salicylate intramuscularly every five days for twelve weeks with no untoward results either at the site of injection or elsewhere. A burly New York policeman was given weekly doses of five grains for ten weeks, and because this seemed inefficient, eight grains weekly were injected for five more weeks with no serious signs of mercurialism. Many of the symptoms usually ascribed to too much mercury are in reality due to too much syphilis and call for an increase rather than diminution in the dosage. The necessity for periods of cessation of treatment to allow the patient as we say to recuperate from the effects of medication is similarly

exaggerated. Too often these periods of intermission, designed to be of a few weeks' duration, are extended by the patient's indifference into months and years to his ultimate detriment. The better plan is to keep them coming at least once a week for a period of two years. Should it become necessary to lessen the dosage or even to cease entirely for a brief period, a placebo may be given, for only by seeing these patients at frequent intervals can the course of the disease be intelligently noted and the treatment intelligently administered.

Herein lies one great superiority of the intramuscular injection over all other methods of administering mercury. It compels regular visits to the doctor's office and enables him to grade his dosage as occasion demands. The inunction method is undoubtedly efficient and is the method of choice where the patient is unable to come to the office. It is the only way in which the drug can be self-administered with satisfactory results, but so few patients will do it properly that I have always found it unsatisfactory and difficult to control. Giving mercury by the mouth with a view of curing syphilis, whether in the form of protoiodide, biniodid, bichloride or what not, should, I think, be made a penal offense. In my experience the administration of mercury is best achieved by giving it in the form of deep intramuscular injections of the salicylate every five to ten days, in doses ranging from one grain to three or even more, as the exigencies of the case and the patient's tolerance demand. By constantly watching the mouth and urine it is a simple matter to avoid the slight danger of over-treatment. Mercury is rapidly eliminated from the system and there is no reason why a generous supply of it should not be coursing through the tissues of an individual afflicted with syphilis for practically the whole of the two-year period. The reason for choosing the salicylate in preference to calomel or gray oil is only that it is less painful. The thing that we are attempting to administer is metallic mercury, of which the salicylate has approximately 58 per cent., calomel 85 per cent., and gray oil 100 per cent. Therefore, as far as efficiency is concerned, there can be but little, if any, advantage to be gained by one over the other. The salicylate simply must be given in larger doses.

The advantage of the insoluble salts over the soluble ones is that in the former a depot is established which requires five to ten days for absorption, during which time the system is more or less continually saturated with the drug. The soluble salts are absorbed in toto immediately and are eliminated in a correspondingly short period. The continual presence of mercury in the blood stream in such quantity as to successfully keep up the fight against the invading organism is the end to be sought. Potassium iodide in the late stages is of use in promoting absorption of luetic deposits and for the relief of luetic headaches, but it must be borne in mind that it is in no degree a spirocheticide or an anti-syphilitic remedy.

There is a very wide divergence of opinion as to the amount of salvarsan it is best to give in connection with the prolonged course of mercury.

Probably we have never had a drug that has been so greatly abused and so unintelligently given, chiefly, I fear, for commercial reasons. My opinion is that its greatest usefulness is in the first six months after the infection, when in combination with mercury frequent intravenous injections of moderate amounts are given in an effort to overwhelm the invading organism before it can reach parts of the body inaccessible to any treatment. The drug is practically unobtainable now and yet I doubt if our therapy of syphilis is suffering greatly thereby. Now that we are placed in a position where mercury alone must be used, we have the opportunity to prove this: What salvarsan will do, mercury will do. What mercury will not do, salvarsan will not do. What salvarsan will not do, mercury will do.

Having persistently and intensively treated the disease for two years in a manner similar to that outlined above, the physician then may safely adopt a policy of watchful waiting for two or three years more. It is with extreme gratification that we can say that at least a majority of the cases will never show another symptom either clinical or serological. If they do, and some will, treatment more intensive, if possible, than that given before must be begun and prosecuted vigorously for at least another year. It is doubtful, however, if it is possible to ever get more than a symptomatic cure in a case that shows clinical symptoms after two years of adequate saturation with mercury and salvarsan.

In presenting to this Society this paper I assure you that I am fully aware of its shortcomings. I am aware that there comes to the syphilologist at times a case in which it seems that the luetic poison invades the whole body with such overwhelming virulence almost from its inception that our most active and persistent efforts will fail to stem its ravages to any appreciable extent. Fortunately these virulent cases constitute but a very small fractional per cent. of the total. It is also true that in spite of our most persistent efforts there will always be a liberal percentage of syphilitics who will refuse to be cured of their disease. We can reduce this number materially, however: First—By using greater frankness in telling an infected individual what the probable course of his disease will be, withholding nothing for fear of discouraging him. Second—By standardizing as much as possible our methods of treatment. Third—By abandoning the inadequate methods of treatment still more or less in vogue. Fourth—By treating everyone as a patient with a curable disease, which only needs persistence and determination on the part of patient and physician to yield happy and permanent results.

That there will be those who will develop late visceral lesions even after the above rigorous régime has been carried out I cannot safely deny. That a much greater percentage of successful results can be realized and that the stigma of incompetency quoted in the beginning of this paper can be removed by the adoption of a course similar to the above and the abandonment of the timidity and inefficiency which characterizes much of our present-day treatment, I thoroughly believe.

SOMETHING TO REMEMBER!

THE ADVERTISERS IN YOUR STATE JOURNAL OF MEDICINE

SOCIETY REPORTS

ALAMEDA COUNTY.

The regular monthly meeting of the Alameda County Medical Association was held at the Hotel Oakland, Tuesday evening, January 18, 1916. The minutes of the previous meeting were read and approved.

The following program was presented:

1. Case report, Dr. Daniel Crosby.
2. Syphilitic arthritis, Dr. Leonard Ely, San Francisco.
3. Fat embolism with report of a case, Dr. Robert T. Legge, U. of C.; pathological report by Dr. Granville Rusk, U. of C.

Dr. John Engs appeared before the Society and asked for its endorsement of the project to establish a branch of the American Red Cross in Oakland. On motion, this endorsement was given.

The Secretary read a set of resolutions passed by the Southern Medical Society of Texas asking for ample medical service in the increase to the U. S. Army proposed by the Administration. These resolutions were sent by the President of the State Medical Society, Dr. H. M. Sherman, with the request that we adopt similar ones. On motion, this was done and copies ordered sent to the Secretary of War and the California Senators and Representatives in Congress.

There being no further business the meeting adjourned.

ELMER E. BRINCKERHOFF, Secretary.

The regular monthly meeting of the Alameda County Medical Association was held at the Hotel Oakland, Tuesday evening, February 15, 1916.

The minutes of the previous meeting were read and approved.

The following program was then presented:

- I. Treatment of Syphilis of the Nervous System by Intra-Spinal Injections. Dr. Jau Don Ball.

Discussion by Drs. Clifford W. Mack and H. G. Thomas.

II. Papers by the Staff of the Bureau of Communicable Diseases, California State Board of Health:

1. Pasteurization of Milk Supplies as a Protection against Typhoid Fever. Drs. J. C. Geiger and F. L. Kelly. Discussion by Drs. T. C. McCleave, R. A. Archibald, J. J. Roadhouse, H. A. Makinson and W. H. Strietmann.
2. Plasmodium Malaria, Quartan; A Type new to California. Drs. J. C. Geiger and F. L. Kelly.
3. Diphtheria Carriers. Drs. J. C. Geiger and F. L. Kelly and V. M. Bathgate, M. S. Discussion by Dr. H. A. Makinson.

Miss Shuey appeared before the society on behalf of the Berkeley Dispensary, stating that they would provide a graduate nurse for moderate fees to do hourly nursing under the directions of a doctor. Dr. J. N. Force said that this was not a charity—that the service was expected to be self-supporting.

The secretary read a set of resolutions at the request of the Los Angeles County Medical Association, "Regarding Industrial Accident Fees." There being no objection the chair appointed Dr. L. P. Adams a committee of one to investigate the matter.

The president announced that the annual banquet of the association would be held March 9, 1916.

There being no further business the meeting adjourned.

ALVIN POWELL,
Secretary pro tem.

CALIFORNIA PEDIATRIC SOCIETY.

The next meeting of the California Pediatric Society (Northern Branch) will take place Tuesday, April 25, at 8:15, in the County Medical Assembly rooms in the Butler Building. This meeting will be a joint one with County Medical Society. The subject of discussion will be "The Defective Child." It is hoped that every one interested in this interesting question will make an especial effort to be present.

The program is as follows:

1. The Problem of the Defective Child (with lantern slides). Alexander Johnson of the Vineland Institute for Feeble-minded, Vineland, New Jersey.
2. Opening Discussion. Dr. Terman, Stanford University.
3. Discussion from Standpoint Juvenile Court. Dr. Bridgman.

GEORGE D. LYMAN, Secretary-Treasurer.

HUMBOLDT COUNTY.

I herewith send in to the State Society a list of the newly elected officers as elected at the regular meeting of the Humboldt County Medical Society on January 18, 1916.

President, Francis R. Horel; vice-president, Benj. M. Marshall; secretary, Laurence A. Wing; treasurer, Louis P. Dorais.

We held a very pleasant meeting, having a banquet and discussion of the milk problem as in Humboldt County. I hope to get all the members to stay with us and have tried to get in several new members.

LAURENCE A. WING, Secretary.

FRESNO COUNTY.

The regular March meeting of the Fresno County Medical Society was held in the offices of Drs. Kjaerbye and Walker on the evening of March 7, President Willson presiding. Present: Drs. Aiken, Collins, Jorgensen, Ehlers, Morrison, Hayden,

Mitchell, Barr, Sweeney, Long, S. M. Kjaerbye, Gillespie, Montgomery, Nicholson, Jones, Peterson, Walker, Miller, Cross, Boyd, Willson, Hare, Couey, Trowbridge, and Sweet. Minutes of previous meeting read and approved.

The application of Dr. Wallace B. Hardie of Del Rey, was reported as having been approved by the State Secretary, and Dr. Hardie was accordingly elected to membership in the Society.

The applications of Dr. Georgia Thompson of Fresno, and Dr. Henry Ehlers of Fowler were read before being forwarded to the State Secretary.

Mr. N. R. Cooper of the Fresno Convention Committee was present to offer co-operation in any possible way in making the meeting of the State Society to be held in Fresno next April a success.

It was moved, seconded, and carried that the Society approve the action of the Board of Governors at a special meeting held on February 22nd, 1916, together with the members of the Fresno City Board of Health. This action consisted in the endorsement by these two bodies of a proposal to establish a Clinic for Tuberculosis Cases under the direction of the City Board of Health with the understanding that the medical staff of the clinic should be elected by the County Medical Society.

It was decided by the Society that two members should be elected to have charge of the clinic for the year 1916. Dr. Kenneth J. Staniford and Dr. Clifford D. Sweet were nominated and then elected to take charge of the work.

It was moved, seconded, and carried that the Society give its official moral and physical support to the City Health Officer, Dr. A. H. Sweeney, for the proposed "clean-up day," April 1.

A paper on "Pyelitis in Children" was read by Dr. Clifford D. Sweet, and discussed by Drs. Hayden, Mitchell, Kjaerbye, Barr, Montgomery, Walker, and Cross.

After the usual social hour and refreshments the Society adjourned to meet in April with Drs. Willson, Mathewson and Cowan.

KENNETH J. STANIFORD, Secretary.

MARIN COUNTY.

The regular monthly meeting of the Marin County Medical Society was held at the home of Dr. H. O. Hund, Winship Park, Ross, Calif., on February 10, 1916, at 8 p. m.

Subject: Syphilis of the Nervous System, Dr. T. G. Inman. Introduction to discussion on Surgery of the Stomach, Histology, Dr. E. V. Knapp. Discussion on Surgery of Stomach, Dr. F. W. Birtch.

All the talks were illustrated by lantern slides, by which the points under discussion were brought out very distinctly.

There were eighteen present who enjoyed the social hour which followed.

The regular monthly meeting of the Marin County Medical Society was held at the home of Dr. W. F. Jones, 508 Mission street, San Rafael, Thursday evening, March 9, 1916, at 8 p. m.

Subject: "Unusual Inflammations in the Abdominal Tract." Speaker, Dr. Phillip King Brown. Illustrated by lantern slides of X-ray plates.

Respectfully yours,

O. P. STOWE, Secretary.

SAN JOAQUIN COUNTY.

The first regular meeting of the San Joaquin County Medical Society for the year 1916 was held at the residence of Dr. W. J. Young, Friday evening, January 28. The following members were present: Drs. W. J. Young, F. P. Clark, R. T. McGurk, B. J. Powell, H. Smythe, C. F. English, H. J. Bolinger, J. D. Dameron, R. R. Hammond,

L. Dozier, L. R. Johnson, J. V. Craviotto, R. B. Knight and D. R. Powell with Dr. McNeil of Stockton and Dr. Emmet Rixford of San Francisco as guests.

Dr. Emmet Rixford presented the paper of the evening on the mechanism of fractures, discussing in particular fractures about the elbow.

At the close of the paper, the members adjourned to partake of a delightful social repast.

The regular monthly meeting of the San Joaquin County Medical Society was held at the offices of Drs. Barton J. and Dewey R. Powell Friday evening, February 25. Those present were: Drs. F. P. Clark, E. E. Endicott, L. Dozier, J. T. Davison, H. J. Bolinger, R. T. McGurk, C. R. Harry, C. F. English, W. J. Young, W. F. Priestly, Mary Taylor, E. A. Arthur, J. D. Dameron, Hudson Smythe, I. S. Zeimer, R. B. Knight, H. E. Sanderson, D. R. Powell, and B. J. Powell, with Dr. Philip Mills Jones, Secretary of the State Society, as guest.

Dr. Jones gave a very interesting explanation of the history of medical legislation in California, particularly during the recent period of unrest, and as he has been in intimate touch with this work for some years, he was in a position to speak not only interestingly but authoritatively. After a general discussion, in which many of the members asked questions of Dr. Jones, which were courteously answered, the meeting adjourned to the Hotel Clark where a social hour was enjoyed.

DEWEY R. POWELL, Secretary.

SACRAMENTO COUNTY.

The regular January meeting of the Sacramento Society for Medical Improvement was called to order by Dr. J. H. Parkinson, at the Hotel Sacramento, at 8:45 p. m. January 18, 1916.

Thirty members were present. Minutes read and approved.

Report of cases:

(1) Dr. S. E. Simmons reported a case of cholelithiasis with pancreatic cyst developing after the operation for stones.

(2) Dr. G. A. White reported a case of dumb-bell-shaped gall stones, crushing of which was necessary for removal.

(3) Dr. H. D. Barnard reported a case of atresia of vagina.

(4) Dr. W. A. Beattie reported a case of Reynaud's disease.

(5) Dr. E. T. Rulison reported a case of toxemia of pregnancy treated with serum from a normally pregnant patient.

The paper of the evening, "High Caloric Diet in Children in Typhoid Fever," read by Dr. H. H. Yerington of San Francisco. Discussed by Drs. S. E. Simmons, J. J. James, E. W. Twitchell, L. G. Reynolds, E. Pitts, G. A. White, A. B. Diepenbrock, W. A. Beattie, E. T. Rulison, F. Grazer, E. C. Turner, S. J. Well, T. J. Cox, F. F. Gundrum, J. H. Parkinson. Discussion closed by Dr. Yerington.

The Secretary then read the minutes of the meeting of April, 1868, upon which date a paper upon typhoid was read.

Report of Board of Directors read.

Letter from Dr. Sherman re resolutions from Dallas, Texas, read. Moved by Dr. Hanna, seconded by Dr. Dillon and carried that these resolutions be adopted and copied and sent to the Third District of California Representative in Congress.

Vote of thanks extended to Dr. Yerington.

Adjourned at 11 p. m.

F. F. GUNDRUM, Secretary.

STANFORD UNIVERSITY MEDICAL SCHOOL

Cooper Clinical Society.

You are cordially invited to attend the meeting of the Cooper Clinical Society, which will be held on Monday, April 10, at 8 p. m., Room 311 of the Clinic and Laboratory Building, Stanford University Medical School, corner Sacramento and Webster streets.

Program.

1. Cases from Lane Hospital.
2. "Something on Colles' Fracture" (Lantern demonstration). Dr. Emmet Rixford.
3. "Notes on the Present Status of Anaesthesia." Dr. Caroline B. Palmer.

H. E. ALDERSON, President.

GEORGE D. BARNETT, Secretary.

LOS ANGELES COUNTY.

Eye and Ear Section, Los Angeles.

Regular meeting of Eye and Ear Section of the Los Angeles County Medical Association, held at the offices of Drs. A. C. Rogers, T. J. and Geo. McCoy, 636 Security Bldg., Los Angeles, California, February 7, 1916.

Attendance. Drs. Brown, Dudley, Detling, Fleming, Griffith, Ide, Kyle, Leffler, T. J. McCoy, G. W. McCoy, F. W. Miller, Montgomery, Old, Rogers, F. L. Sweet, Stivers, Swetnam, Tholen, True, Kelsey.

The minutes of previous meeting read and approved. On roll-call continuing the necrology report of last meeting the following members presented cases:

Dr. Ide, first case: G. N., age 55, gardener, Oct. 21. Complaint: Cough, expectoration, loss of flesh, hoarseness (aphonia), pain in throat.

Previous history: Acknowledged gonorrhea, denied syphilis, no other illness. Present illness: Two months previously after imbibing whisky had gotten very wet in a rainstorm. For two months now voice has been hoarse. For five days has had pain in the throat (so severe as to interfere with deglutition) and increased hoarseness now amounting to aphonia. The night before his visit to the office had been unable to sleep because of the pain. No illness previous to two months ago. Examination: Epiglottis thickened, rigid, immobile, arytenoids swollen; vocal cords thickened, ulceration in interarytenoid sulcus. Smear from larynx contained many tubercle bacilli. No discoverable lung involvement. Diagnosis: Laryngeal tuberculosis apparently primary. Treatment: Tuberculin by graduate method in slowly increasing doses. Temperature running as follows: 99.6, 101.2, 100.4, 99, 98.3, 98.4, 98.8, 99. Nourishment taken through feeding tube in prone position. Local applications of formalin in glycerine and orthoform. At this stage deglutition was so painful and the epiglottis so rigid the pain was relieved by cocaine spray or orthoform, the epiglottis was amputated Nov. 11, the intention being to inject the superior laryngeal nerves also. The epiglottidectomy was followed by relief. At the sixth visit to the office following this proceeding the man returned home while it was raining. A fresh infection carried the temperature up to 103, 103.4, etc., the respirations to 32, 44. Death ensued, the picture during these last days being typical of acute lobar pneumonia. This case was reported promptly to the Health Department, and the house was visited by a district nurse, but since this man's death the nephew who accompanied him to my office, who also lived with him, has died; the man's wife is in the County Hospital with tuberculosis of the lungs and all of his three children have the disease.

Case 2. Miss A. D., age 32, consultation case. Previous history: Had an injury to her head in childhood. Present illness: Presents the phenom-

ena of Jacksonian epilepsy. Vision very indistinct; has diplopia, sees at all well only with left eye covered and temporal side of right retina turned toward object. There is right homonymous hemianopsia. Double papillitis, acute and active, the edges of both optic discs being obliterated, the veins are dilated and the arteries indistinct. There are punctate hemorrhages of retinae, both retinae. As to involvement of cranial nerves:

- I Normal.
- II Double papillitis.
- III ?
- IV ?
- V Anesthesia of right cheek.
- VI ?
- VII Paresis of right face.
- VIII Pronounced tinnitus right.
- IX Normal.
- X "
- XI "
- XII Paresis of right side.

There was diplopia with evident involvement of either the 3d, 4th or 6th nerves, but patient's mentality was too low at the time to investigate which. Decompression was secured by two trephine openings by Dr. W. J. G.; a few days later patient died after being in coma from time of operation. The dura was not incised, there was no idea that the lesion was an abscess. This woman had a coarse masculine appearance with considerable growth of hair on the face.

Dr. F. F. Kyle—first case: Man after six weeks with pain in the left eye and supra orbital had been treated by local measures; I saw the patient after 10 days, he had a bulging eye with pus in the middle fossa of the nose. X-ray picture showed left ethmoid a dark shadow. I suspected pus had broken through into the left orbit. The nose very narrow but I removed the left middle turbinate which was followed by a great amount of pus, pressure on the eye also forced out pus. Meningitis from orbital cellulitis developed on the opposite side, temperature ranged from 105 to 106. Lumbar puncture showed streptococci infection.

Third case: followed a tbc. mastoid. Young man of 21 in late stage of tuberculosis of the lungs developed acute mastoid, ear became infected, operation on mastoid under 2% novocain with no pain, two months later patient developed Tbc., miliary form of meningitis, which was confirmed by post mortem.

Q. Dr. Rogers of Long Beach: Did the infection of the meninges come from the ear? A. Don't think so. Dr. Fleming—discussion: I had a similar case, used cocaine in a mastoid operation. Patient died with Tbc. meningitis one year later.

Dr. Geo. McCoy: Did Dr. Fleming's case get well after the operation and die later? A. Yes.

Dr. Tholen: While in Boston I saw a septum operation under ether which took one hour; 20 minutes after the operation patient died. The nurse had left him for 20 minutes. He became cyanotic. The doctors all said no patient should be left alone.

Report of Clinical Cases Shown This Evening.

Dr. T. J. McCoy showed a case on which he had done Reese resection tenotomy, etc., for squint. He also reported case of eye death, or loss of an eye, in a lady operated on one month ago. She was nervous, I could not fix her eye, she would roll it up and I had to use a spoon and lost not more than two drops of vitreous; two hours afterwards patient had an attack of violent vomiting and hemorrhage of the central artery of retina—sight of eye was lost. I found out afterwards that this patient was subject to vomiting and sick headache but had not told me. Instruments shown for eye work, forceps.

Second case shown: Boy became blind in one

eye from an embolus of a branch of central artery. Literature says these cases are rare. In this case all the tests were normal—Wassermann, Tbc., etc. Discussion by Dr. Frank Miller and F. L. Rogers.

Dr. Griffith's case shown: A woman, larynx case. She gave a history of having had a fibroid tumor removed 16 years ago; also one year ago had a goiter which disappeared after iodine treatment. Several weeks ago noticed a swelling of the throat following vaccine treatment for acne. Case shown for diagnosis. Discussion, Dr. Geo. McCoy—I think the right-sided lump was connected with the cartilages of the larynx.

Dr. Kyle: I have formed no definite opinion.

Dr. Fleming: It might have been a traumatism with inflammation and swelling following.

Dr. Dudley: Was the condition perichondritis or chondritis? Ans.: Yes, I think it was.

Dr. F. L. Rogers: Case resembles one I saw in Rochester, Minn.; found to be a lobe of thyroid which was removed by operation.

Dr. G. W. McCoy: Dr. Hamilton of Venice had a similar case himself. The removal of the goiter was advised but he went to another doctor who got him well without operation.

Dr. G. W. McCoy—first case: Cataract. Iris firmly bound down but the lens slipped out easily; it was syphilitic. Two other cases similar all turned out well.

Second case: A child 19 months old who had a safety pin in the bronchus two months. I did tracheotomy and removed the pin all right. Pneumonia followed but the child recovered and is now well.

Third case: Foreign body in the bronchus. Bronchoscope passed but found nothing. Ten days later excessive coughing and development of pneumonia but patient got well. I have had 60 or 70 cases of foreign body in the bronchi, either my own or associated with others. I have had two deaths. One was a peanut in the right bronchus; the other case was a jackstone. The child had had two short anesthetics given by general practitioners who tried to fish out the jackstone. While I was manipulating the jackstone lodged in Cricoid cartilage and child died suddenly.

Discussion. Dr. J. J. Kyle: I remember a case in which a grain of corn was removed from the bronchus of a child; the mother picked up the child and it died instantly.

Dr. G. W. McCoy mentioned several points in the technique in removal of foreign bodies from the air passages.

Dr. Montgomery showed an X-ray plate made from a patient with acute frontal sinusitis. He removed anterior portion of the middle turbinate and the anterior ethmoid cells, could not reach the frontal sinus on account of a very large ethmoidal cell closing up the passageway but evidently drainage was established because the patient recovered.

Old Business: Report of the Necrology Committee on the death of Dr. Rose T. Bullard was received and, on motion, was ordered spread on the minutes of the meeting.

Applications from the following were received: Dr. Lloyd Mills, Dr. Burrows. The chairman appointed the Executive Committee.

Annual Meeting of the Eye and Ear Section, Los Angeles County Medical Association, held in the offices of Drs. Fleming, Hastings and Montgomery, Los Angeles, Cal., January 3, 1916.

Attendance: Drs. Bullard, Brown, Dudley, Fleming, Hastings, Lund, T. J. McCoy, G. W. McCoy, Montgomery, Sweet, Stevenson, True, Detling, Reynolds, Graham, Ide, Griffith, Lefler, Old, Sweetnam, Tholen, Stivers.

Minutes of the previous meeting read and approved.

Dr. Old showed a case of laryngeal tumor. History over last 22 months; Wassermann negative;

Tbc. negative. Sputum now shows bacilli. Q. Is this case with laryngeal involvement primary Tbc.?

Discussion.

Dr. Fleming: Primary Tbc. of larynx has been reported but so rarely it can be set aside. This case is probably not primary. Q. What has been the treatment? A. Don't know, except locally usual remedies.

Dr. Hastings: I have seen cases of tuberculosis of larynx treated in all sorts of ways locally, by astringents, by antiseptics, by formalin, curettage, and it seems to me that in spite of all I ever did they never seemed to improve; but Tbc. cases do get well by leaving them alone locally and using tuberculin injection and general treatment.

Dr. Lund: Dr. Davies is with us, he has been working with Tbc. cases for years; what has he to say?

Dr. Davies: I think Tbc. larynx cases get well by rest, tuberculin, general treatment, etc.; the local treatment is of no use.

Dr. Reynolds: How about orthoform?

Dr. Hastings (answer): It calms and soothes. First clean off the larynx and apply a powder consisting of orthoform, iodoform, stearate of zinc.

Dr. Geo. McCoy said we should remember alcohol injections into the laryngeal nerves to quiet severe pain. He also reported results of treatment of foreign bodies in the eye, covering a period of the past 7 years in 10,000 cases.

Dr. Detling: Supplementary report to polyp. case of last meeting. Following its removal pus appeared in the nose. I am sure now that the polyp. removal opened the way to the pus chamber. Later I opened ethmoid and sphenoid and removed a large amount of pus.

Dr. Fleming, supplementary report to his case of sphenoid from last meeting. I found the pus to be pure staphylococcus—case is now well.

Report of Fatal Cases.

Dr. Dudley reported two cases: first of panophthalmitis following pneumonia and dying of meningitis. Second case, O. M. P. C.: Developing meningitis—resulting fatally.

Discussion: Dr. Sweet of Long Beach: There is yet some work to be done in the differential diagnosis between labyrinthitis and meningitis. We should formulate some sort of conclusion as to what to do in these cases. In my cases I have had bad results but it seems to me we should not have.

Dr. Montgomery reported two cases.

First case of meningitis.

Second case at County Hospital, woman admitted with a history of having been in a private hospital for 5 days, treated by hot applications; she then went to County Hospital with a request for immediate operation; meningitis developed; lumbar puncture was made, fluid showing pus germs; death in four days.

Third case, of a child with an acute cold Tuesday; Wednesday developed acute O. M. P. A. Osteopath saw child; the following Sunday it developed meningitis. Kernig's oposthotonos and irritability, no mastoid tenderness. Two days later lumbar puncture done and the fluid removed, now shows streptococci hemolyticus, child is improving, but I claim it would not be advisable to operate if we find organisms in these very cases.

Dr. Detling reported case of man with history of earache, removed wax before breakfast, after breakfast went back, no unusual symptoms; next day voice was queer, thickening of the upper posterior wall, no other symptoms. Later in the day patient was worse, semi-comatose; made memb. tympan. incision, found pus. Family physician did not agree but Dr. J. M. Brown said it was meningitis, with Kernig's sign. Paralysis of the external rectus muscle. We made a spinal puncture.

Pathol. reported streptococcus mucosa infection. Patient died 2½ days later.

Discussion—Dr. Fleming: Q. Was there no other history of ear trouble? A. No.

Dr. Detling reported second fatal case. Infant with congenital catarrh, operated. Cause of death? Probably suffocation due to child having been put to bed with hands tied behind it, and in drinking milk, vomited, etc.

Dr. Hill Hastings reported case of meningitis. Dr. Bullard asked what organism was found. A. Streptococcus. Dr. Brown asked what condition were the sinuses? A. Normal.

Dr. Stephenson: I was associated on this case; it was a remarkable case, especially in regard to the choked disc and its development only when the germs were found in the spinal fluid.

Dr. Sweet: Did you suspect local meningitis? A. Yes, first local, then general.

Dr. Geo. McCoy: Just because he had a negative Widal is no sign he did not have typhoid fever. In cases with infection, the finding of germs in the spinal fluid does not necessarily mean that they will be fatal.

Dr. G. W. McCoy reported fatal case in an adjoining town. Child with bulging eye, developed meningitis from orbital cellulitis. No post-mortem allowed. Streptolytic serum used, and autogenous vaccine with relief.

Dr. Sweet of Long Beach: Case of death was the one reported last week—meningitis.

Dr. Stephenson, four cases. One case of the larynx, tubercular; one case of O. M. P. A., which developed meningitis; third case, O. M. P. C. and meningitis, from which I learned one lesson, with a posterior, superior, bulging auditory canal, I would do a mastoid operation at once.

Dr. True reported first case meningitis operated on by radical method and died. Second case, tonsillectomy. This had been operated on eight days before for T. & A. Boy had been well operated. Hemorrhage developed after crying spell at night. He had a systolic heart murmur. Counsel called in and everything known was tried. Sewing pillars together, etc. Child died.

Dr. Fleming asked was it a complete Tons. operation?

A. Yes.

Remainder of cases postponed until next meeting.

The Nominating Committee recommended the following for officers for the ensuing year:

Chairman, Dr. C. H. Montgomery; vice-chairman, G. W. McCoy; secretary, C. G. Stivers; councillor, T. J. McCoy.

Moved by Dr. Stephenson, seconded by Dr. Old, that the report be accepted.

Moved by Dr. Stephenson, seconded by Dr. Old, that secretary cast the ballot for nominees. Secretary did so, and the above officers were elected.

Dr. Montgomery took the chair, and the secretary and treasurer read his annual report.

Dr. Montgomery moved the report be accepted. Carried.

Dr. Lund moved the society extend resolutions of sympathy and condolence to Dr. Bullard for the loss of his wife, Dr. Rose Talbott Bullard. Carried.

C. G. STIVERS, M. D., Secretary.

PROCEEDINGS OF THE SAN FRANCISCO COUNTY MEDICAL SOCIETY.

During the month of February, 1916, the following meetings were held:

Tuesday, February 1st. Mary's Help Hospital Clinical Evening.

- I. a. Case of Pulsating Exophthalmos.
- b. X-ray Plate of Exophthalmos without Pulsation.

- c. Case of Anuria in Acute Ulcerative Tonsillitis (Lues).
- d. Conservative Eye Surgery in Steel Injury; Presentation of Case.
- e. Acute Intestinal Obstruction on sixth day after Smooth Cataract Extraction; Fatality in 4 hours.
- f. Carcinoma Choriodeae; pathological specimens. C. E. Taylor and G. T. Brady.
- II. Lacerated Wound of Cornea and Lens caused by Piece of Steel Drill. Presentation of Case. M. W. Fredrick.
- III. a. Recovery from Tetanus.
- b. Hydronephrosis following Ureteral Stone in a Mononephritic. A. S. Keenan.
- IV. An Unusual Case of Foreign Body in the Eye, followed by Malignancy. M. W. Fredrick.
- V. a. Abscess; Sinus Thrombosis.
- b. Sarcoma of the Superior Maxilla masked by Vincent's Angina. J. J. Kingwell.
- VI. Problems in Deformity.
 - a. Club Foot.
 - b. Spastic Hemiplegia.
 - c. Ankylosis of Elbow.
 - d. Spur on Heel.
 - e. Infantile Paralysis (shortening of three inches).
 - f. X-Ray Plates of Ankylosed Knees.
 - g. Kyphosis, Scoliosis and Paraplegia, treated with Bone Grafts. C. C. Crane.
- VII. Primrose Poisoning. E. D. Chipman.

General Meeting, February 8.

1. References to Anatomy in Rabelais. D. W. Montgomery. Discussed by A. L. Fisher.
2. The Application of Anoci Association to Obstetrics; Report of Cases. C. L. Hoag. Discussed by L. I. Breitstein, A. B. Spalding and F. Lynch.
3. Septic Teeth (illustrated by lantern slides). J. S. Marshall. Discussed by A. L. Fisher, W. C. Alvarez, J. G. Brady and C. F. Welty.

Eye, Ear, Nose and Throat Section. February 23.

1. Presentation of Case of Trachoma, Treated with Carbon Dioxide Snow. A. S. Green.
2. Presentation of Two Interesting Cases of Labyrinthine Disease. H. B. Graham. Discussed by G. P. Wintermute, A. Baer, G. Brady, H. Horn, C. F. Welty and H. B. Graham.
3. Review of Thirteen Cases Operated by Smith-Indian Method; with presentation of cases. W. F. Blake. Discussed by W. S. Franklin, A. S. Green, A. Cohen, G. Brady, V. Hulen, K. Pischel, L. D. Green and H. Barkan.

Section on Urology, February 29.

1. (a.) An Interesting Case of Pyonephrosis Necessitating Complete Ureterectomy.
- (b.) X-ray plate of diverticulum of bladder.
- (c.) Specimens of tuberculous kidneys.
- (d.) Specimens of tuberculous testicle.
- (e.) Specimen of dilated ureter. M. Krotoszyner. Discussed by R. L. Rigdon and S. Beasley.
2. Vesical Calculus; Historical. M. Silverberg.
3. Case of Complete Urinary Retention due to Urethral Calculus. G. W. Hartman. Discussed by J. von Werthern.

Transactions of the Surgical Section of the San Francisco County Medical Society, February 15th, 1916. Chairman, Harold Brunn, M. D.

1. Adenocarcinoma of the Thyroid, with Metastasis to the Skull; presentation of case. Dr. P. Campiche.

Young man of 30 yrs. with large tumor of thyroid first noted at age of 14.

Three years ago a large tumor of left temporal region was diagnosed metastatic adenocarcinoma from the thyroid. Under use of Coley's toxin this growth disappeared. The original tumor remains.

Discussion.

Dr. W. Ophüls: I only wish to state that adenocarcinoma of the thyroid is very difficult to diagnose histologically. The evidence of malignancy is not very pronounced, and unless you have clear evidence of growth into the muscle or skin, it is not easy to distinguish between benign and malignant tumors of the thyroid. We have had four or five malignant tumors of the thyroid in the last five months, although as a rule they are quite rare.

Dr. W. I. Terry: I would like to ask Dr. Ophüls if there is no difference between the sarcomas and carcinomas. In their clinical course it seems to me the sarcomas grow much faster.

Dr. Ophüls: They are much more malignant, and there are combinations of both carcinoma and sarcoma in the same gland.

2. Pathological Specimens and Case Reports: Dr. W. I. Terry.

(a) Osteochondroma of Tibia.

(b) Benign and (c) Malignant Papilloma of stomach. No discussion.

3. Preliminary Blood Tests in Transfusions. Dr. S. H. Hurwitz. (Published in this number of the Journal, p. 163.)

4. Report of Transfusions done in St. Luke's Hospital during the past five years. Dr. F. W. Birtch. (Published in this number of the Journal, p. 163.)

Results of 89 Transfusions done by Drs. Terry, Weeks and Pope. Dr. Saxton Pope:

Diagnosis	No.	Not	
		Relieved	Improved
Acute Hemorrhage.....	27	26	1
Shock	3	—	3
Secondary Anemia.....	8	5	3
Septicemia	7	1	6
Pernicious Anemia.....	1	—	1
Hodgkins	1	—	1
Typhoid Hemorrhage.....	5	3	2
Sarcoma	3	—	3
Hemophilia	3	3	—
Pseudoleukemia	2	2	—
Purpura	2	1	1
Hemorrhage Neonatorum..	1	—	1
Urticaria	3	3	—
Cholemia Hemorrhage.....	2	2	—
Gas Poisoning.....	12	2	10

Discussion.

Dr. A. Newman: I have had one case of typhoid hemorrhage treated by direct transfusion. There was severe hemorrhage from the bowel in the third week of the disease. Dr. Schwarz performed the transfusion three hours after the hemorrhage. The donor had had a typhoid vaccine injection a week before, the first of a series of three. The arms were joined about 25 minutes. I had a blood pressure apparatus on the donor's arm and kept the blood going until the blood pressure began to fall. The effect on the recipient was magical. Previously white and exsanguinated, she became rose red to the tips of her ears. There was no further hemorrhage, and after a more or less stormy period she recovered. The effect upon the donor so far as typhoid was concerned was nil, but she was weak for about a

month, I suppose on account of the large amount of blood lost.

Dr. W. I. Terry: I do not know whether Dr. Pope included in these cases a number I transfused previous to other operations, but that is an indication I think for quite a number of transfusions, whether they be done by the direct or indirect methods.

Personally, I have come to place more confidence in the red blood count than in the hemoglobin estimations. It seems to me there is more possibility of error in the hemoglobin estimations than in the red blood counts, but they are interesting to compare. With 20% hemoglobin you should have practically one million in the red count.

I was much interested in Dr. Hurwitz's statement of preliminary testing of all donors. I did not realize that it could be done in a few minutes, and I shall certainly have it done in future.

In the first case of sarcoma I transfused, no hemolysis showed in the tube, but the recipient's blood was apparently hemolyzed.

Dr. H. R. Oliver: I have but little experience with transfusion—only one case in which the hemoglobin was down to 12 (ectopic pregnancy) in which transfusion was done with rapid recovery.

In cases of hemorrhage neonatorum, whole blood from the mother or father has been injected directly into the gluteal muscles; the hemorrhages immediately stopped and all recovered.

I have had two cases of gastric hemorrhage. One about two weeks ago; hemoglobin 30. The patient had been treated with horse serum, calcium, etc., without alleviation and the hemoglobin was still going down. I took 20 cc. of the wife's blood and injected it into the muscles. The day after the injection there was no more blood in the stool. We took the blood yesterday and the hemoglobin was 92. The other case (hemoglobin 17) was injected the day before yesterday and as far as we can tell the hemorrhage stopped.

The method is simple and it is well to try it in any sort of hemorrhage—severe epistaxis, phthisis, etc. I use the ordinary 20 cc. Luer syringe, boiled in sodium citrate solution, and two needles. Fill the syringe from the donor's vein, have the other needle ready, insert into the gluteal muscle and inject. There is no soreness; it is rather an extravasation through uninjured tissues.

Dr. J. L. Whitney: Some recent work by English physiologists seems to explain why transfusions have not been successful in gas poisoning. The theory of transfusion is based on the supposition, which is probably still being taught in most schools, that carbon monoxid forms a permanent combination with hemoglobin, thus excluding oxygen and causing asphyxia. As a matter of fact, the compound thus formed is not permanent and, if such blood is exposed to air in the absence of CO, the carbon monoxid hemoglobin breaks down and the blood is as good as it was before. The experiments I speak of were first done by Haldane and Lorraine Smith* and later repeated by others. In order to study various questions on circulation and respiration, they saturated their own bloods up to 40 per cent. with carbon monoxid and suffered no ill effect. They have published a curve showing the relative partition of the hemoglobin between CO and O₂ at various percentages of carbon monoxid in ordinary air. This shows that with .05 per cent. of CO, the blood is 42 per cent. saturated with carbon monoxid, and at .1 per cent. the blood is 60 per cent. saturated. The reaction is reversible and depends upon the well-known law of mass action, so that if there is CO in the air inhaled the stream is into the blood up to the saturation point, and,

on the other hand, if the air breathed contains no CO the stream is out of the blood until the CO is entirely removed.

Therefore, if vigorous artificial respiration is used as soon as the patient is seen, preferably using oxygen in addition to the air, his blood will be entirely free of CO within a very few minutes and quite as good as any blood that could be put into him by transfusion or any other means.

It may be asked, What is the cause of death in these cases of gas poisoning? Haldane has shown that death is due to asphyxia, because the CO hemoglobin will not transport oxygen. The various tissues of the body withstand asphyxia for a different length of time. For example, the skin is very resistant and it is believed that the epithelium often survives after death for a week. The liver and kidney epithelium are also resistant. Nerve structures, however, perish after a few minutes of asphyxia, the higher centers before the more vital ones. The death of the respiratory centers occurs quite accurately eight minutes after full asphyxia, though in partial asphyxia such as must often occur in gas poisoning, it probably survives longer. If the respiratory center is dead of course the patient cannot be brought back to life. If he has been "gassed" just short of the time necessary to kill the respiratory center, the cerebral centers may have perished, and in this case he may go on breathing but his higher centers are permanently dead; that is to say, he remains in a state of coma. Such a man is technically alive but, inasmuch as the dead nerve structures are incapable of regeneration, he will never recover consciousness, and any amount of treatment of any sort will manifestly be wasted effort.

Dr. H. B. Reynolds: I would like to ask in what particular conditions of urticaria Dr. Pope gave transfusion, and whether he thinks the intramuscular would do as well as the direct transfusion.

Dr. H. C. Naffziger: I saw most of these cases of gas poisoning. Two more were transferred to the City and County and the University, one of whom recovered after transfusion, which would bring the total up to 14 with three recoveries.

The people familiar with gas cases can make a fairly correct prognosis, and it is only fair to state that these were uniformly the worst cases that came in—cases that were manifestly going to die.

Dr. Harold Brunn: I have had a considerable series of transfusions and have also used the injection of whole blood in various forms of hemorrhage.

In two cases of melena neonatorum I found it very difficult to connect up the saphenous vein, largely because of the lack of proper instruments. In both cases, after failure with transfusion, the use of whole blood from the father caused hemorrhage to cease.

I have had only one case in which I used citrated blood. This was a case of internal hemorrhage, post-peritoneal, at the Mt. Zion Hospital. Five hundred cc. of blood, diluted with 0.2 per cent. sodium citrate was used. Immediately after the injection the boy suffered a severe chill, followed by a high temperature. The following day he was better, but we did not feel justified in repeating the injection and adopted the expedient of using 20 cc. whole blood subcutaneously instead.

A case of purpura hemorrhagica with bleeding from practically all of the mucous membranes, as well as a large hemorrhage into the lesser peritoneal cavity was cured after giving whole blood injections over a considerable period of time.

A number of cases of hemorrhage from the kidney have improved remarkably with the use of whole blood injected subcutaneously.

Since nobody has made mention of the fact, a word of warning might not be out of place in re-

* Haldane and Lorraine Smith: Jour. Phys., 1896, xx, 497; 1897, xxii, 231; 1900, xxv, 231.

gard to the danger of sudden dilatation of the right heart during transfusion. Such an accident happened at the City and County Hospital in a case of carcinoma of the cecum with pronounced anemia. Preliminary to a short circuiting operation, transfusion was done by the direct method. Soon after the blood began to flow through the vessels, the patient was seized with mild convulsions, his respiration became embarrassed, his pupils dilated, and he died soon afterward in shock. I take this to be a case of death from sudden dilatation of the right heart.

Dr. Henry Horn: It is curious how little the value of this whole blood transfusion is known in connection with tonsil cases. It is curious also that I had four consecutive cases at St. Francis Hospital and each time the donor was the resident physician there—he has not only acted for me, but also in other cases. It seems to me that his blood has high agglutinating power because the results in some cases have been perfectly marvelous. The use of this method in tonsil hemorrhage is the simplest and by all odds the most practical.

Dr. B. Jablons: In connection with transfusion of infants, by utilizing the veins of the scalp it is possible to inject or withdraw blood with little difficulty.

I would like to ask Dr. Hurwitz whether it is possible to organize a bureau of donors on a practical basis, utilizing Landsteiner's classification, dividing donors into four groups.

I would also like to ask whether the hemolytic and agglutinating tests would not be affected by immersion in ice.

Dr. Hurwitz, closing discussion: In answer to Doctor Jablon's question as to whether or not hemolysis will occur at low temperatures, it is possible to state by analogy with the clinical condition, paroxysmal hemoglobinuria, that such may occur. As you well know, in the latter condition sensitization of the red corpuscles by the amboceptor takes place at low temperatures, whereas the action of the complement occurs at higher temperature. I have already referred to the presence of agglutinins in normal human bloods, and, as I stated, it is possible to divide individuals into four groups on this basis.

I was particularly interested in the discussion of the treatment of hemorrhagic diseases with whole blood, and rather surprised to learn that Doctor Birch had not had success with the use of whole blood in hemophilia. The work of Libman and Ottenberg, to which Doctor Birch referred, is rather insistent upon the value of transfusion in hemophilia. In fact, they recommend that every individual known to be hemophilic should have on hand a donor or donors whose blood has been found by preliminary tests to be compatible with theirs, so that in case of an attack of bleeding, one could resort to an immediate transfusion.

It is interesting to note how most physicians are paying less and less attention to the use of serum in this disease, and it is quite in keeping with what we are learning about the etiology of the various types of hemorrhagic disease. Especially in hemophilia, in which instance it has been shown with a fair degree of certainty that the defect in the blood is due to a deficiency in the circulating prothrombin, can we hope to supply the missing element in no other way than by the use of whole blood. Very recently a number of workers have also reported successful results with the use of whole blood in purpura hemorrhagica.

Dr. F. W. Birch, closing discussion: In that case of hemorrhagic purpura the hemorrhage stopped after transfusion, but it recurred in about three weeks and had to be transfused again. I was only disappointed that it did not cure it. But it stopped the hemorrhage at the time.

Dr. Saxton Pope, closing discussion: Dr. Rey-

nolds asked about urticaria. Dr. Morrow has used blood injections a great deal and has found them almost specific. This case verged upon angioneurotic edema and was permanently relieved by one or two injections of whole blood intravenously.

As to what form of transfusion you use, I think there is a choice. Medical men speak of the Lindeman method, which is the use of the intravenous cannula with record syringes used in succession.

The Lewishon method depends on the use of citrate of soda in two tenths per cent.—added to whole blood. The mixture does not coagulate and may be delivered intravenously by means of a hypodermic syringe outfit.

When you want a large volume of blood, you had better give a direct transfusion with the cannula method.

In typhoid possibly there is a chance for transfusion by the Kimpton-Brown tube, although this scheme is capable of damage, where positive pressure is used, through the introduction of clots into the circulation. In transfusing from dogs the usual clotting time is less than in human blood—it clots in a Kimpton tube in less than three minutes, giving one a very short time for collection and administration of the blood.

Where you wish to restore the volume of blood a direct transfusion is undoubtedly best. It is a simple thing to tell how much blood is passing over. If the cannula is connected with the radial artery and the blood run into a graduate glass, it usually runs one-half ounce in ten seconds. The vein pressure is 7 mm., the artery pressure 140, so that there is little deduction to be made for differences in pressure. In ten minutes you are running at least a pint of blood.

We transfuse our patients ten to twenty minutes, sometimes seven minutes in children. The donor usually will faint in fifteen minutes. The radial artery in the donor after such an operation, usually is restored and apparently is as good as ever after six weeks.

The surgeon will always want to use the direct method; the internist will favor the syringe. Take your choice and use discretion.

BOOK REVIEWS

Diseases of the Skin. By Henry H. Hazen, A. B., M. D. Published by C. V. Mosby Company, St. Louis, 1915.

Hazen's book on Diseases of the Skin is well worth reading. The illustrations alone are enough to make the book of great value. In fact much can be learned from a study of the pictures without the print. It is not a difficult book to read as the print is large and in no place is any account long enough to be irksome, yet the subjects are all carefully covered. One could wish that even a little more might have been given on treatment, but to cover everything necessary to be considered in the treatment of skin diseases, it would require a book devoted to this subject alone. Written as the book is by a man of such excellent training and of such extensive experience both in private practice and in the clinics it is a treatise that one who is interested in skin diseases would not regret to own.

G. D. C.

Text Book of Materia Medica for Nurses. Compiled by Lavinia L. Dock. Fifth Edition. Published by G. P. Putnam's Sons, New York and London, 1915. Price, \$1.50.

A well arranged, concise and convenient book for reference and study by the class of readers for whom it is written. The brevity of the descriptions of the drugs and their actions is especially to be commended, and the introductory notes

on the preparation of solutions, dosage, etc., are very good.

In view of the general excellence of the book it is regrettable that the author did not submit the chapter on Serum Therapy and Vaccines to some one more familiar with the subject, before incorporating it in the book. The paragraph on the Pasteur treatment for rabies in particular shows a very hazy idea of the subject. A. W.

Laboratory Methods. With special reference to the needs of the general practitioner. By B. G. R. Williams, M. D., and E. G. C. Williams, M. D. With an introduction by Victor C. Vaughan. Third edition. Illustrated with forty-three engravings. Published by C. V. Mosby Company, St. Louis, 1915. Price, \$2.50.

A small book intended for the general practitioner, or rather for the practitioner remote from a laboratory base, or without previous laboratory training.

The book smatters of stuff from urinalysis to post-mortems. Sputum, bacteriology, hematology, gastric analysis, tissue diagnosis, toxicology, exudates, Widal reaction, milk analysis, water analysis and stool examinations are all touched upon in its 200 pages.

The detail-demanding Hermann-Perutz test is given as a satisfactory substitute for the Wassermann reaction; the Diazo is invariably present in early typhoid, and is much preferred to the Widal; diphtheria is diagnosed by smear preparations. None of the more recent simple yet more delicate tests is mentioned.

The book aims at economy in equipment as well as time and effort in procedure. By spending a dollar or so more, the practitioner can buy a real book. There are better small books. E. A. V.

The Clinics of John B. Murphy, M. D., at Mercy Hospital, Chicago. Volume V, Number 1 (February, 1916). Octavo of 194 pages, 33 illustrations. Philadelphia and London: W. B. Saunders Company. 1916. Published Bimonthly. Price per year: Paper, \$8; cloth, \$12.

Contents.

Congenital Cyst of Neck Extending into Axilla.
Adenocarcinoma of Breast.
Ulcer of Duodenum.
Volvulus of Jejunum—Untwisted.
Peridiverticulitis of Sigmoid.
Urethral Caruncle.
Luxation of Third Lumbar Vertebra with Compression of Cauda Equina.
Fracture-luxation of Second Lumbar Vertebra with Compression of Cauda Equina.
Tuberculosis of Thoracic Spine with Compression of Cord.
Elongation of Capsule of Hip-joint Simulating Congenital Luxation.
Ankylosis of Hip-joint, Dense and Fibrous in Type, from Ancient Infection.
Ancient Tuberculosis of Hip-joint.
Ancient Tuberculosis of Hip-joint with Pathologic Luxation of Femur.
Ancient Metastatic Bacterial Synovitis of Hip-joint with Adduction-Deformity.
Osteomyelitis of Femur.
Traumatic Rupture of Internal Lateral Ligament of Knee-joint.
External Luxation of Patella with a Foreign Body in Knee-joint.
Bony Ankylosis of Knee-joint.
Hypertrophic Villous Synovitis of Knee-joint.
Ankylosis of Knee-joint Following a Furuncle.
Tuberculosis of Knee-joint.
Hallux Rigidus.

Applied Immunology. The Practical Application of Sera and Bacterins Prophylactically, Diagnostically and Therapeutically. With an appendix on serum treatment of hemorrhage, organotherapy and chemotherapy. By B. A. Thomas, A. M., M. D., and R. H. Ivy, M. D., D. D. S. Five colored inserts and 68 illustrations in text. J. B. Lippincott Company, Philadelphia and London, 1915. Price, \$4.00.

The scope of this work seems to be a rather wide one. Among topics discussed are immunity in general, the side-chain theory, anaphylaxis, the preparation and use of the various kinds of antisera (including many of very doubtful value), use of rabies virus, small-pox vaccination, immunization of bacterial vaccines (typhoid, cholera, etc.), agglutinins, technic of Widal reaction, precipitins, Bordet test for blood, lysins, fixation of complement in various diseases, particularly with reference to the Wassermann reaction, the Abderhalden test, tuberculin and other allergic tests, tuberculin therapy, the opsonic index, serum treatment of hemorrhage, including the Swift-Ellis technic. In the preface the author excuses himself by lack of space from entering into theoretical discussions, and chooses to be rather dogmatic at times rather than to enlarge on controversial subjects. One cannot but feel that if the scope of the book had been restricted to the most important of the subjects included, more thorough discussion would have been possible, and references at least could have been given to those who wished a more fundamental understanding. However, there is a large amount of valuable material here gathered in compendious form, and the book should be of value to those looking for a practical manual on this subject. J. L. W.

Blood Pressure: Its Clinical Applications. By George W. Norris, A. B., M. D., Assistant Professor of Medicine in the University of Pennsylvania; Visiting Physician to the Pennsylvania Hospital; Assistant Visiting Physician to the University Hospital; Fellow of the College of Physicians of Philadelphia. Octavo, 372 pages, with 98 engravings and 1 colored plate. Cloth, \$3.00, net. Lea & Febiger. Publishers, Philadelphia and New York, 1914.

In the preface of this book of 372 pages, the author states that he has endeavored to "present the subject of blood pressure, the literature of which has grown very extensive, in a condensed and practical form, and as definitely as the present state of our knowledge permits."

The first 126 pages deal with the physiology of arterial blood pressure and the various methods of determining it. One short chapter of 9 pages is devoted to the determination of the venous blood pressure and one of 43 pages to the functional efficiency of the circulation, including a discussion of the methods of estimating the rate of the flow of blood. In the remaining 185 pages the author discusses the changes in blood pressure which occur in disease, together with symptomatology and treatment under various conditions. He devotes one short chapter to blood pressure in Surgery and Obstetrics, and one to the relationship of blood pressure to Ophthalmology.

The arrangement of the text is good and the author's style is pleasing. The text is illustrated with many charts, diagrams and photographs which have been carefully selected. The bibliography is given in detail and at the foot of the page on which each reference is cited, an arrangement which is most gratifying. The index is well arranged and the typographical errors are few.

In that portion of the text which deals with the methods of determining blood pressure, too much space is devoted to a description of obsolete instruments and too little detail is given in the description of those which are of established value.

A more detailed description of a few of the more satisfactory instruments would be of greater value than the curtailed description of so many, and would be of greater aid in making a selection.

The portion which is devoted to the variations from the normal blood pressure and to the description of the various clinical manifestations and to their treatment contain much that is of value. The author has succeeded in gathering together an immense amount of data from many sources and in presenting it in such a form as to render it readily available. At the same time he has emphasized by greater detail those points in diagnosis and treatment which have proven to be of greater importance.

The book can be highly recommended to all who are interested in a review of the present status of blood pressure estimation in its relation to clinical investigation. E. C. D.

The Treatment of Acute Infectious Diseases. By Frank Sherman Meara, M. D., Ph. D., Professor of Therapeutics, Cornell Medical College, New York City, etc. Text of 540 pages including index. Published by Macmillan Company, New York. 1916.

This compact volume is a welcome addition to the library of the busy doctor who has not, or thinks he has not time to sift and choose the best methods of treatment from periodicals and isolated texts. It can be cordially recommended to every physician who is concerned with the treatment of acute infections. It is essentially for the practitioner, and is frankly practical and didactic rather than theoretical and inferential. It comes as the concise crystallization of methods tested in personal experience and judgments critically proved, hence it has authority which is too often lacking in books on treatment.

The preface states: "Each chapter has been made to deal with an individual disease in a thoroughly practical manner; each little detail of procedure being explained so that the reader may actually apply it. Moreover the reason for the procedure, as based on our latest information, both in respect to physical therapy and to drugs, the author has sought to give. Constant and confusing reference to the literature has been avoided. . . . The book must be looked on as an expression of the author's individual opinion."

The mechanical preparation is particularly good. The size of type and page, margins and quality of paper make an attractive appearance. The excellent use of heavy-faced type to emphasize key words and phrases, and the bold-faced printing of paragraph and section headings, facilitates quick reference and impresses the memory. The comprehensive and carefully worded index is also to be commended. Each chapter, containing the treatment of a single disease, ends with a detailed summary of all the points in the text, furnishing an especially useful means of reference and topical review.

The first two chapters are devoted to general subjects. Chapter one on the general management of fever is written from a rational standpoint which is well illustrated by the order of precedence accorded the various remedial measures discussed. These are rest, proper diet including water intake, fresh air, hydrotherapy, and drugs. Chapter two on diet in acute infectious diseases is a distinct contribution in itself. The theory of dietetics is scientifically explained in succinct fashion, and the importance of this subject in practical treatment is emphasized.

In a volume of so many excellences it is to be regretted that imperfections find place, especially when as here, the imperfections are largely of a minor character and more or less such faults as pertain to a first edition and to hasty copy and proof reading. To note them is not to criticize but to indicate future improvement. The happiest

phraseology and clearest grammar is not always used, as for example on page 52, line 7, a clause is used as a complete sentence. Such errors have been admitted as on page 235, line 25, "The finding of the local lesion comes then as a surprise, awarding the routine of the examination of the throat." On page 175 and 176 the formula for phenacetin should be $C_{10}H_{11}NO_2$ instead of $C_{10}H_{12}NO_2$. On page 177 an ambiguous expression might lead one to think that Yeo advocated quinin in influenza, "his own preference being salicin" (?).

In describing the use of emetin in amoebic dysentery, on page 166, it is stated that emetin is not emetic in action, but only amoebicidal. Had emetin been given to an actual patient by mouth this statement would probably not have been made. It is claimed by Hesse that the emetic action of emetin is due to admixture of cephaelin, but experimental evidence is lacking, and in most preparations so far available for clinical use, the emetic action is marked. Given hypodermically emetin does not provoke emesis, its emetic properties as Cushny says, being probably applicable to the gastric mucosa. The description of the use of emetin leaves much to be desired. Its curative action after formation of liver abscess and the permanence of emetin cures, as well as its actual toxicity are in a measure still sub judice.

In spite of these minor faults, which doubtless will disappear with a new edition, the volume has great value and should find a place in the working library of every practitioner.

ALFRED C. REED.

Senescence and Rejuvenescence. By Charles Manning Child of the Department of Zoology, The University of Chicago. Published by The University of Chicago, Chicago, Ill., 1915. Price, \$4.00.

In all departments of biological science the last twenty years has been a period of enormous accumulation of new data, and in consequence working hypotheses that ten years ago were accepted almost as natural laws, are again in the melting pot; and he who would keep pace with the progress of modern thought needs to constantly refresh his knowledge by the aid of works similar to the one under review.

Professor Charles Manning Child entitles his book "Senescence and Rejuvenescence," but fundamentally such a book must and does take into consideration the bases of our knowledge concerning the nature of life and its relation to matter. The special field of investigation is fairly well stated in certain paragraphs of the introduction, wherein it is stated:

"The occurrence of senescence in the organic world raises many questions of great interest and importance, not only for the scientist, but in certain aspects for the human race in general. How do young and old organisms differ from each other, and what is the nature of senescence? Is it a feature of the fundamental processes of life or the result of incidental conditions? Does it occur in all organisms or only in the more complex, more highly differentiated forms? Does it inevitably lead sooner or later to death, or is a rejuvenescence of old organisms or parts possible? Is the process of senescence in a given organism always of the same character, or does it depend upon the environmental conditions? Is the rate of senescence always the same in a particular species, or does it differ in different individuals according to the action of internal or external factors? Many of these questions can be summed up in the one, Can we control senescence?"

"In nature the organism resulting from the union of the two sexual cells is young. This fact raises another series of questions. Does rejuvenescence occur somewhere in the course of sexual reproduction, or does the germ plasma from which the sex cells arise not grow old? Are the organ-

isms which result from asexual reproduction also young, or is sexual reproduction the only process which gives rise to young organisms? If rejuvenescence occurs, upon what does its occurrence depend and what is its nature? Does it occur in all organisms, or only in certain of them? Is complete rejuvenescence possible, or is the species and the organic world in general undergoing a senescence which will lead to extinction?"

These questions are dealt with, first, by a very valuable summary and critical analyses of various theories of the organism, followed by an even more valuable chapter on the life cycle.

The rest of the book deals with a great mass of experimental evidence recently accumulated concerning the nature of reproduction, sexual and asexual, regeneration, and senescence. It is utterly impossible to deal here with these chapters in detail, but some of the results are given in the last chapter, wherein the writer shows that senescence and rejuvenation are not necessarily sequential, but are often alternate phenomena, and that reproduction is essentially always a rejuvenescence of some part of an aging organism. He says, for example, "The regressive changes which bring about rejuvenescence are not necessarily reversals in the chemical sense of the progressive changes, but rather a substitution of a new substratum for an old. As a structure built by man, when it is no longer suited to existing conditions, may be torn down and some part of it used, together with new material, so in organisms structural features built up under certain physiological conditions, may under others be broken down and some of their constituents may take part in the formation of a new structure." The writer, dealing with the nature of the physical basis of inheritance, differs markedly from current conceptions. Thus he says in one place, "If we accept this theory of reproduction the Weissmanian conception of germ plasma as a self-perpetuating entity, independent of other parts of the organism, except as regards nutrition, becomes not only unnecessary but impossible. Germ plasma is any protoplasm capable under proper conditions of undergoing regression, rejuvenescence, and reconstitution into a new individual. In other words, germ plasma becomes merely an abstract idea which connotes the sum total of the inherent capacity, or potencies, with which a reproductive element of any kind, natural or artificial, agamic or gametic, giving rise to a whole or a part, enters upon the development process."

It is pointed out in one part of the book that among the possible conceptions of the nature of senescence is one implying the general running down of reproductive capacity of all living things, ending in ultimate life extinction. Our author, however, takes the view that amongst the possibilities is a rejuvenescence which may in itself be the fundamental factor in progressive evolution. He says, "In earlier chapters I have attempted to show that individual development and senescence are associated with increase in stability of the substratum, while regression and rejuvenescence involve a return to the original undifferentiated active protoplasmic conditions. It is of course not necessary to assume that in all cases exactly the same condition is attained in each successive regression and rejuvenescence. It is quite conceivable, indeed probable, that in spite of the successive regressive changes in each generation, there may be some slight, more or less continuous progressive change which perhaps becomes appreciable only after many generations. Have we, in fact, any right to assume that the organism returns to exactly the same condition in each successive regression? Is it not possible that a gradual, progressive senescence of protoplasm has occurred in the course of evolution?" Again he says, "If protoplasmic senescence is the essential factor in progressive evolution, then evolution is,

like individual development, to a large extent internally rather than externally determined." This leads our author to suggest that "we may perhaps expect that in the course of time our ability to control the evolutionary process may increase, although the difficulties involved in controlling and modifying to any great degree internal conditions, which are the result of millions of years of alternating progressive and regressive change, will perhaps make progress in this direction show." These quotations are enough to show the extreme importance of the problems dealt with by Professor Child, and the scientific spirit in which they are handled. It is to be understood that the manner of treatment in "Senescence and Rejuvenescence" bears no relation to that given by popular works dealing with similar subjects, and that we have here a book that no student of biological science can afford to be without.

H. D'A. P.

THE MARCH MEETING OF THE STATE BOARD OF HEALTH.

The regular monthly meeting of the State Board of Health was held on March 4, in Sacramento. There were present Dr. George E. Ebright (president), Dr. Edward F. Glaser, Dr. Robert A. Peers, and Dr. Wilbur A. Sawyer. A written report of the secretary's trip to Washington in connection with public health legislation had been placed in the hands of each member.

In response to a request for an opinion, the board decided that under proper conditions wooden bunks filled with straw are sanitary. It was thought that frequent changing of the straw offset some of the advantages of the more permanent cheap mattresses.

The secretary was given power to act in the matter of arranging an exhibit of the State Board of Health at the State fair of 1916 at Sacramento.

It was decided that the State board would call a conference at an early date between the various administrative officers specially interested in the enforcement of the new milk law, which goes into effect on October 1. The object of the conference would be to outline the most effective methods of co-operation.

The case of a physician and health officer who had failed to report certain cases of typhoid fever was considered. On his assurances that the omission was accidental, at a time when he was unusually busy, and that there would be no repetition of the offense, the board decided not to prosecute. Failure to report a communicable disease is a misdemeanor and is punishable by a fine of not less than twenty-five or more than five hundred dollars, or by imprisonment for a term of not more than ninety days, or by both such fine and imprisonment. The list of diseases which must be reported is as follows: Anthrax, beri-beri, cerebrospinal meningitis (epidemic), chickenpox, cholera (Asiatic), dengue, diphtheria, dysentery, erysipelas, German measles, glanders, gonococcus infection, hookworm, leprosy, malaria, measles, mumps, ophthalmia neonatorum, pellagra, plague, pneumonia, poliomyelitis, rabies, scarlet fever, smallpox, syphilis, tetanus, trachoma, tuberculosis, typhoid fever, typhus fever, whooping-cough, and yellow fever. Gonococcus infections and syphilis are to be reported by office number only, names and addresses of patients not being required.

A petition was received from stockmen of Modoc county asking for a modification of the quarantine against rabies, in accordance with the regulations of the board, so that dogs could be used during the daylight hours in herding sheep, if under constant supervision. The previous action of the secretary in granting this petition was confirmed by formal action of the Board. No change was made in the regulation forbidding the moving of dogs into, and out of, the county.

The board decided to undertake, during the summer of 1916, in co-operation with the University

of California, a survey of malaria and mosquitoes in California, under the direction of Professor W. B. Herms, Consulting Parasitologist of the State Board of Health.

The following resolution was passed, placing on public record the attitude of the board toward full-time service: Resolved, that the full-time officers of the State Board of Health are not permitted to accept fees for professional services, either for themselves or for their bureaus.

A petition was received from residents of Broderick, Yolo county, relative to standing waters, dangerous to health, and an investigation by the Bureau of Sanitary Engineering was ordered.

A permit was granted to the City of Compton to discharge sewage effluent into Compton Creek, in accordance with the recommendations of Mr. C. G. Gillespie, director of the Bureau of Sanitary Engineering. A permit was granted to dispose of the sewage of a privately-owned system at Colma through sub-surface irrigation.

On the recommendation of Miss Anna C. Jammé, director of the Bureau of Registration of Nurses, certificates as registered nurses were granted to two candidates, and the following hospitals were accredited for one year: Orange County Hospital at Orange, and the Anaheim Sanitarium at Anaheim. The board decided to send Miss Jammé as its representative at the annual meeting of the American Nurses' Association in New Orleans, April 27 to May 3, 1916.

Ninety-eight cases of alleged violations of the foods and drugs laws had been set for hearing at this meeting, and the defendants or their attorneys appeared in person in forty-one cases. Most of the cases were referred to district attorneys for prosecution.

W. A. SAWYER, Secretary.

DEPARTMENT OF PHARMACY AND CHEMISTRY.

Edited by FRED I. LACKENBACH.

(Devoted to the advancement of Pharmacy and its allied branches; to the work of the Council on Pharmacy and Chemistry of the American Medical Association, and to matters of interest bearing upon the therapeutic agents offered to the medical profession. The editor will gladly supply available information on matters coming within the scope of this Department.)

NEW AND NONOFFICIAL REMEDIES.

Since publication of New and Nonofficial Remedies, 1915, and in addition to those previously reported, the following articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion with "New and Nonofficial Remedies":

Lyster's Prepared Casein Diabetic Flour.—Milk casein to which has been added a leavening mixture, sodium chlorid and saccharine. Used in the form of muffins in diabetes, etc. Lyster Bros., Andover, Mass. (Jour. A. M. A., February 26, 1916, p. 653).

Antistreptococcus Serum Rheumaticus, Squibb.—Produced from strains of streptococcus from the joints and blood of cases of rheumatism. The serum is intended for use in cases of acute articular rheumatism. E. R. Squibb & Sons, New York (Jour. A. M. A., February 26, 1916, p. 653).

ITEMS OF INTEREST.

Hypochlorites in Infected Wounds.—Dakin points out that he claims no credit for the "discovery" of the "new antiseptic." He explains that the "new antiseptic" was discovered by Berthollet in 1788. The solution used by Dakin and others is essentially the well-known Labarraque's solution or solution of chlorinated soda. The claims as to the efficiency of the various modifications which are being used in France and England are decidedly

contradictory. The one conclusion which all results with the various hypochlorite solutions appear to justify is that hypochlorites, whether applied in an acid solution, in an alkaline solution or in a neutral solution, are of genuine value in the treatment of infected wounds (Jour. A. M. A., Feb. 5, 1916, p. 430).

The Therapeutic Value of the Hypophosphites.—At the request of the Council on Pharmacy and Chemistry, Dr. W. M. Marriott, Johns Hopkins University, has examined the evidence for and against the therapeutic value of the hypophosphites. Experiments were carried out to determine the "food" value of hypophosphites. The hypophosphites were introduced into medicine by Churchill in 1858 on the basis of an incorrect theory and utterly insufficient and inconclusive clinical evidence; their use has been continued without justification by any trustworthy evidence for their efficiency. By actual trial on human subjects Marriott shows that at least 85 per cent. of the ingested hypophosphites are excreted unchanged. Further, he holds that there is no proof that the remaining 15 per cent. is available to the organism. It is doubtful if there are any conditions in which the body suffers from lack of phosphorus. Marriott concludes that there is no reliable evidence that hypophosphites exert a physiologic effect; it has not been demonstrated that they influence any pathologic process; they are not "foods." If they are of any use, that use has never been discovered (Jour. A. M. A., Feb. 12, 1916, p. 486).

The Effect of Opium Alkaloids on Respiration.—D. I. Macht has reinvestigated the effect of opium alkaloids on respiration. He divides the alkaloids of opium in two classes: In the one class is morphine, the prominent sedative alkaloid, which may not interfere with efficient respiration when the dose of the drug is small. In contrast with this are narcotin, papaverin, narcein, thebain and cryptopin, all of which are stimulants and in large doses are excitants of the respiratory center. Codeine belongs to the morphine class though in large doses it may also excite the respiratory center. The action of mixtures of opium alkaloids is a summation of their individual effects. It thus appears that if the object sought is a reduction of the labored activity of the respiratory muscles in a given case, the drug opium itself or mixtures of its alkaloids are to be preferred to morphine alone. If, on the other hand, it is desired to diminish the excitability of the cough reflex mechanism, it seems that a simple substance, as morphine or codeine, is to be preferred (Jour. A. M. A., Feb. 12, 1916, p. 514).

Fermented Milk.—While there is no conclusive evidence that *Bacillus bulgaricus* is able to establish itself in the intestine in such a way that other bacteria are driven out, it is undoubtedly true that in many cases marked improvement has resulted from the ingestion of milk cultures made from it. It is by no means certain, however, that the results which have been obtained by the use of milk cultures have been attributed to any peculiar virtue in the organism itself. The beneficial effects of a sour-milk diet is attributable, perhaps, not so much to the bacteria contained in the milk as to the milk itself, which provides material for an acid fermentation in the intestine. Fermented milks are so well tolerated in many cases that their use should in general be encouraged from the standpoint of nutrient values, quite apart from the problematical "auto-intoxication" propaganda (Jour. A. M. A., Feb. 19, 1916, p. 574).

Diarsenol.—Diarsenol, Synthetic Drug Company, Toronto, Canada, is said to be chemically identical with salvarsan. It has not been examined in the A. M. A. Chemical Laboratory nor do any reports of trials appear to have been published which demonstrate its value or safety. As salvarsan is covered by United States patent the American agents for salvarsan will probably object to the sale in the United States of a substitute (Jour. A. M. A., Feb. 19, 1916, p. 590).

FIRST AID COMMITTEE.

The president has appointed the following:

- Dr. F. K. Ainsworth, San Francisco, Cal.
 Dr. T. W. Huntington, 516 Sutter street, San Francisco, Cal.
 Dr. A. Miles Taylor, Head Building, San Francisco, Cal.
 Dr. Emmet Rixford, San Francisco, Cal.
 Dr. G. Cochran, Los Angeles, Cal.
 Dr. C. D. Lockwood, Pasadena, Cal.

IT PAYS THE MANUFACTURER TO MAINTAIN ETHICAL STANDARDS.

The notice of the removal of the Dextri-Maltose manufacturing plant from Jersey City to Evansville, Ind., deserves more than passing attention. It furnishes evidence of the natural growth of a manufacturing enterprise which is now vacating its old factory with 18,000 square feet of floor space for a new location in the Central West and in a new plant with 300,000 square feet of floor space—sixteen times larger than the old one.

This removal from a comparatively small to a very large housing also affords striking proof that success awaits the manufacturer who produces something the physician really wants, and markets his products in accordance with the standards set up by doctors for the sale of products they use. The first commandment for the direction of the manufacturer under these standards is: "Thou shalt not offer to both physician and public, by advertising or otherwise, anything which requires medical skill to properly use."

This commandment has been ignored by some manufacturers of infant foods, who have persistently educated the public with pseudopediatrics, thereby tending to increase infant mortality and hampering the physician in the practice of scientific, or even rational infant feeding.

But ultimate reform in the manufacture and sale of infant foods was as inevitable as the reform that has taken place in the sale of pharmaceutical products. The day of mystery and tradition in infant feeding is passing rapidly.

The recent simplification of bottle feeding, rendering it possible, without impractical complication, for the family physician to successfully adapt the diet to the individual baby, has brought about a strong conviction that the direction of infant feeding is distinctly the proper work of the physician.

This conviction has in turn created a demand for forms of carbohydrate foods which can be freshly prepared in exact proportions to meet clinical indications; and for their sale without directions for use, so that the physician can personally control the administration of the food.

The firm, which announces herewith its removal from the east to larger opportunities in the west, early recognized the requirement by the medical profession for a product used in infant feeding, made and sold exclusively for physicians, with no appeal, nor information to the public.

This firm deserves no special commendation for the course it has pursued, it being its duty to follow it. Reference to the sales of Dextri-Maltose is made simply to show that it is remunerative for manufacturers to treat the medical profession fairly.

GOVERNMENT OPENS A FREE EMPLOYMENT BUREAU FOR FARMERS AND OTHERS SEEKING HELP IN SAN FRANCISCO.

The Government has opened a Free Employment Bureau and Labor Exchange in the United States Appraiser's building, San Francisco, for the purpose of bringing the job and the jobless together without cost to employer or workman.

Every postoffice is supplied with blank forms of application for the benefit of farmers and others who seek help, and the man who wants employment. These blanks are transmitted through the mail to the office of the Bureau in San Francisco

without postage. This service is free to the employer and employee. Applications can be made with the blank forms, by telephone, letter or personal call.

Furthermore, it is the object of the bureau to promote a beneficial distribution of the unemployed in the congested communities throughout the country and bring the landless man to the manless land. It is also a division of information for the benefit of the prospective settler, the farmer in need of help, and the person seeking work.

All applications are honored by registration, and an effort made to supply the demand.

A corps of efficient officers have been detailed by the Commissioner of Immigration at this port, to attend to this work exclusively.

The division is a branch of the Bureau of Immigration, under the supervision of the United States Department of Labor, Washington, D. C.

IN RE: RESOLUTIONS OF ENDORSEMENT OF CALIFORNIA STATE BOARD OF MEDICAL EXAMINERS, AND OF DR. WM. R. MOLONY OF LOS ANGELES.

"At a meeting of the Board of Councilors of the L. A. County Medical Association, held January 24, 1916, Dr. Wm. R. Molony, a member of the Los Angeles County Medical Association, and President of the California State Board of Medical Examiners, addressed the Board of Councilors on the work of the California State Board, and also on the communications sent by him to the Journal of the Medical Society of the State of California, and the editorials of that Journal in regard to the same, and so on.

"On motion by Dr. Stanley P. Black, it was voted that the Board of Councilors of the Los Angeles County Medical Association express the confidence of that Board in the work of the California State Board of Medical Examiners, and of Dr. Wm. R. Molony's part therein; and that the Secretary be instructed to write a letter to that effect to the Editor of the Journal of the Medical Society of the State of California, with a request that this action be printed in the Journal of the State Medical Society; also that a notification of this action be sent to the Board of Councilors of the Medical Society of the State of California; and that the action taken also be printed in the Bulletin of the Los Angeles County Medical Association."

NEW MEMBERS.

Smithwick, John Milton, San Francisco.
 McClelland, James Hugh, San Francisco.
 Taylor, C. E., San Francisco.
 Dotson, E. E., Escondido.
 Scott, G. S., Ramona.
 Thomas, Robt. W., San Diego.
 Chartres-Martin, E. P., San Diego.
 Pickard, R. J., San Diego.
 McGinnis, Geo. H., San Diego.
 Wessels, A. B., San Diego.
 Andrews, H. F., San Diego.
 Ream, Wm., San Diego.
 Anderton, Herbert S., Burlingame.
 Dykes, J. P. H., Redwood City.
 Moodie, Alex. Russell, Redwood City.
 Powers, Allan R., South San Francisco.
 Lynch, Wm. Cartson, Belmont, Cal.
 Downing, W. E., Rio Vista, Cal.
 Walker, Wm. H., Willows, Cal.

DEATHS.

Crediford, D. B., Rialto.
 Goyer, Edw. H., Eureka.
 Gale, Herbert A., San Francisco.
 Bush, I. Chas., Santa Cruz.
 Callihan, Robt. (Died in Rohnerville, Cal.)
 Bailey, Chas. A., Los Angeles.
 Heryford, H. W., Millville, Cal.
 Bangs, F. H., San Jose.